

Compulsory day release urged

by Peter David

A big expansion of higher education, based on the introduction of compulsory day release and paid educational leave, has been called for by the National Association of Teachers in Further and Higher Education.

In a response this week to the Government's discussion document on higher education in the 1990s, the 60,000-member association says that a wide range of social groups are still denied access to higher education.

"If the widening of opportunities for these students is to become more than a pious aspiration, positive steps will need to be taken by both the educational world and by government. For education, the nature of provision will need to be transformed to meet the new demands placed upon higher education. Courses and course patterns, curricular, administrative and financial arrangements will require revision."

NATFHE believes that among the essential measures that an expansion of opportunity would require, are a phased introduction of compulsory day release and paid educational leave. Students on non-advanced courses ought also to be eligible for automatic grants and the existing "unrealistic and inequitable" fees system ought to be abolished.

In its response the association criticises the Government discussion paper for focusing exclusively on the demographic problem and ignoring the needs and potential of individuals and the requirements of the country for skilled manpower.

"The logistics of matching the higher education system as closely to the demographic trend as is possible, the future so long as the idea that Robbins' selective higher education to students with two A levels is abandoned."

polytechnics—and have been found to be damaging to students and staff alike," it says.

The overdependence on temporary part-time staff, the use of "coz and box" methods and rented or temporary accommodation underlying the proposals are a recipe for educational disaster.

Commenting on the DES model D and the proposals for shortened courses, part-time students, the NATFHE document says that there is a place for these alternatives "but not as a short-term substitute for existing three or four year patterns". In any case, the association notes, there is growing pressure in some disciplines for longer rather than shorter courses.

A widely drawn model E comes closest to the association's view of the future so long as the idea that Robbins' selective higher education to students with two A levels is abandoned.

Writ sought in Sheffield finals row

by John O'Leary

A former students' union president is taking Sheffield University to the High Court over a decision which prevents him sitting his final examinations for the third time. Mr Pat Hughes is applying for a writ to nullify a ruling by the senate excluding him from the university.

Mr Hughes has already been given leave by the High Court to apply to the Divisional Court for a judicial review.

The recommendation that he be excluded came from the faculty of social sciences, following Mr Hughes' second failure in his economics finals. It has prevented him sitting again this year, as he had planned. But he intends taking final again in 1979 if his action is successful.

Mr Hughes, who was president of the students' union in 1974-75, is claiming that his exclusion constituted a breach of natural justice, since he was not invited to appear before the meeting of senate which took the decision. He says his first performance in finals, in 1974, was only described as a "bad failure" a year later.

The university registrar, Mr Alex Currie, said there was no question of Mr Hughes being victimised. The prescribed procedures had been followed and he had twice been interviewed by the faculty board in the presence of a solicitor.

He said Mr Hughes had been invited to appeal but, in the judgment of the university, had not provided any new evidence. Mr Hughes could still pursue the matter with the university council through the grievance procedure.

Mr Hughes, who was admitted to the university in 1971, failed eight of the nine economics papers in 1976 and was called before the students' affairs committee in July 1977, following his second failure.

Exam board rebuff to N and F

by Peter Knight

A major rebuff for the proposed A-level examinations, the two-tier N and F system, came from one of the leading examination boards.

Condemnation of the plan is contained in a 60-page report on the two-tier N and F proposals published by the University of Cambridge Local Examinations Syndicate.

The report is bitterly opposed to the abolition of A level, but acknowledges there is a strong case for reviewing the whole pattern of 16 education. It suggests, as an interim measure, the retention of A levels combined with the introduction of a new N-level examination.

"Putting the question in simplest terms, the choice between the two systems is a choice between a system which, with all its imperfections, works reasonably well, and a system which is completely untried and which appears at this stage to have many disadvantages," the report says.

"Clearly, sixth-form education at present is in a state of considerable confusion, and some modification of the existing examining system will have to be made sooner or later. Whether this is the right way, which to make it is open to debate."

To replace A level at high time by something so ill-defined and untried as the N-level, the report says, would be a lowering of standards. The report is, therefore, opposed to the abolition of A level until the new system of education after the age of 16 has been reviewed and some kind of stable pattern has emerged.

The Syndicate, which met last week, also agreed to set up a working party to examine the introduction of a new examination which could be taken either at A level or at N level in its own right.



Peter Knight, a lecturer in the School of Mathematical Sciences at Plymouth Polytechnic, was elected president of the National Association of Teachers in Further and Higher Education this week. Conference reports, page 2.

Unions spar on university representation

by John O'Leary

Talks aimed at producing an inter-union agreement on the recruitment and representation of university lecturers have begun in London under the auspices of the TUC.

An initial meeting between the Association of University Teachers and the Association of Scientific, Technical and Managerial Staffs laid the ground for further discussions.

Mr Laurie Sapper, general secretary of the AUT, said the two sides had agreed to meet again in the autumn to discuss a series of issues which were likely to be raised by a formal agreement was reached. Neither union had expected immediate results from the talks.

Having failed to agree on an agenda for the first meeting, the two sides agreed to a free-ranging discussion, under the chairmanship of Lord Keith. This is likely to reveal the pattern for future talks.

The agenda difficulty arose from the widely different objectives of the two unions. The AUT is seeking a demarcation agreement to give it sole recruitment rights among university lecturers and professors, while ASTMS is anxious to win recognition in the universities' negotiating machinery.

The two unions have a tradition of co-operation. The AUT's support for the AUT's application to join the TUC, a joint meeting after the application was accepted failed to produce any sort of agreement. However, Mr Stan Davidson, assistant general secretary of ASTMS, said the two sides were meeting in any case of hostility. "My hope for the long term is for a merger."

LSE appointment has social work staff up in arms

by Peter David

The British Association of Social Workers is considering making an unprecedented complaint to the Secretary of State for Education and Science following the appointment of an "unqualified" academic to the first chair of social work at the London School of Economics.

Professor Robert Pinker, head of sociology at Chelsea College, London, was appointed social work professor at the LSE last week. The 10,000-member BASW and staff at the school claim he has never practised or taught social work and is not professionally qualified.

Mr John Cypher, assistant general secretary of BASW, said the association would be complaining to the LSE and to the Central Council for Education and Training in Social Work. An approach might also be made to Mrs Williams, the secretary of state, asking her to assume the same oversight of social work professors that the Social Services Secretary has of local authority social service directors.

Social work staff at the LSE have joined in the complaint. In a public statement they say that anyone appointed to a chair in social work should be a professionally qualified social worker.

"We therefore regret that the appointment of the first professor of social work at the LSE has breached this principle. We consider that the importance of holding the relevant professional qualification is not restricted to the educational task to be carried out within the university, as the appointment to a chair in social work involves a leadership position within social work generally."

The argument about Professor Pinker follows a similar controversy about the recent appointment of Mr Gerard Rochford, a psychologist, to the chair of social work at Aberdeen University. The BASW wrote to Aberdeen's vice-chancellor expressing "surprise and disappointment" and warning that the credibility of the university's social work department could not be maintained with a professor not qualified in social work.

Mrs Jane Thomas, chairman of BASW and a lecturer at the LSE, commented this week: "If chairs are called chairs in social work, the people appointed should be qualified in the particular discipline. This is taken for granted in other disciplines. But both Aberdeen and now the LSE have breached that principle."

"Many good social workers have turned academics. Most social workers are qualified social workers. There is the possibility that there may be a mismatch between the university's requirements for published research and the requirements of practice, but I believe there are many excellent academic social workers around who are capable of professing the subject at this level."

Professor Pinker is widely known as the author of a standard book on social administration, *Social Theory and Social Policy*. Before moving to Chelsea he was sociology professor at Goldsmiths' College. An LSE spokesman said the school was "delighted" to have him on the staff.

A spokesman for the Central Council of Education and Training in Social Work said the council recommended that social work teachers should "normally" be qualified social workers, but no guidelines existed on the appointment of chairs. "It is the right of a university to make its own appointments," he added.

Inner city hopes spring external

by Robin McKie

A technique has been developed which will allow derelict ground in cities to be used for high-quality building purposes—by constructing houses on rubber springs. This surprising vision has become fact at a number of building projects in London and much of the consultancy and advisory work involved has come from the city's Imperial College.

Professor Peter Grootenhuys, of the mechanical engineering department, said the development had far-reaching social implications for the quality of life in inner cities in the future.

Rubber blocks were first used in construction work at the development of the Barbican in London. The designers took advantage of rail line repaving, mounting the line on a massive concrete bridge which in turn was mounted on rubber blocks, absorbing the noise and vibration of passing trains. This allowed architects to build luxury flats, shops and even a concert hall over the line without trains disturbing residents.

The technique has now been applied to buildings and has been used in construction at several sites, including London's Westminster hospital and the Alexandra Road housing scheme in Camden. The rubber blocks are incorporated in the buildings' foundations and absorb noise and vibration from rail lines, motor vehicles and other sources.

Professor Grootenhuys said the technique now enabled builders to open up sites which were once undesirable and frequently derelict, because of their proximity to rail lines. He estimated that this added between 2 and 5 per cent to building costs.

Robbins' inquiry urged

by Maggie Richards

A Robbins-style committee of inquiry should be launched to examine and introduce a greater degree of expertise into the system of higher education, says Professor Gareth Williams, director of Lancaster University's Institute for Research and Development in Compulsory Education, during a session of the introduction of the new Higher Education Act.

He was speaking at the introduction of a conference of the Society for Research into Higher Education, held to draw up the society's discussion document, *Higher Education into the 1990s*.

Comparing present-day conditions with those at the time of the Robbins report, Professor Williams drew attention to a little-discussed similarity between the two eras.

Robbins had also been compiled with the prospect in mind of an immediate peak in demand to be followed by a decline.

But there were also important differences. Robbins had been prepared in the climate of a decade of demand for higher education, whereas over the past 10 years there had been no increase in the proportion of 18-year-olds entering it. In the 1960s there had been a labour shortage, while today there was unemployment.

All this, accompanied by changed attitudes, particularly towards continuing education, meant that the Robbins principle of guaranteed entry to higher education for all those qualified or capable of benefiting from it was no longer relevant.

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Greater access to welfare benefits demanded by NUS

Students should have the same rights as other citizens when they claim welfare benefits, particularly rent rebates and allowances, the National Union of Students has told Mr Reg Freeman, Minister of State for Housing.

In a submission delivered yesterday to the Department of the Environment and to the Government's Advisory Committee on Rent Allowances and Rebates, the NUS says that students have suffered hardship because welfare benefits are administered by government departments which see all questions of student support as coming under the DES.

The submission says: "NUS finds this allocation of responsibility for student support, particularly worrying trend when escalating inflation has rapidly eroded the real value of the grant from its 1962 level and the latest DES survey into discretionary awards shows that fewer new full-value discretionary awards were made this academic year."

"We would argue that there is no comprehensive system of student support, nor is this likely to be achieved in the near future. Students should be entitled to the same welfare benefits as the rest of the population and, where these benefits are measured, entitlement should be based on actual income, not an imaginary level of student grant."

In a separate submission this week the NUS has complained to the Department of Health and Social Security that amended social security regulations drawn up by the Government will prevent many students from claiming unemployment benefit during the short vacations.

Under the new regulations mature students and those who have worked for several years before taking courses will be able to claim benefit. But those straight from school will be excluded, even if they have satisfied the normal contributions conditions by virtue of credits received in the sixth form and by working in the vacations before joining colleges.

Brunel council votes for college merger

The Council of Brunel University has voted to support a merger with Shoreditch College, Egham. The university has decided to accept the University Grants Committee's invitation to prepare a balanced plan for the development of design and technology courses at Shoreditch.

A working party set up by the university will look at ways in which the college site, which is 12 miles from Brunel, can be best used. It will also consider the implications for staff, courses and finances of the merger.

Established Open University now 'a target for criticism'

by Maggie Richards

The Open University, now a recognised part of the educational establishment, has become fair game for criticism, says Sir Walter Perry, the university's vice-chancellor, in his annual report for 1977.

In the report, just published, he says: "Even those who enthusiastically supported us because they shared in the idealism of our creators, and who, so far, have muted their criticisms to avoid damaging our viability, now see us as strong enough to stand up to the full blast of their more devastating comments."

Last year—in marked contrast to 1976—there had been a plethora of public interest in Open University activities. Some of it was very critical, says Sir Walter. "I am quite sure that although this is uncomfortable it is also entirely healthy in forcing us to ask questions about our fundamental aims and purposes."

Dealing with allegations of political bias in one or two OU courses last year, he says: "The OU is not alone in having been subject to allegations of this kind in 1977; however, it raises issues of profound importance to us as a university. The responsibility for issuing course materials, which are open to public scrutiny, lies with the university as a whole rather than on individuals as in other universities."

In this way, the very nature of the university's operation imposes a particularly heavy responsibility on us to ensure that our courses are of the highest possible standard. The fact that a particular unit, or series of units, is written from a specific political standpoint is not in itself reprehensible; but the university needs to be sure that academic standards are not prejudiced by the omission of particular theories and viewpoints."

But in examining the long-term effect of the Open University on society, Sir Walter says the claims of political bias are of relatively low significance.

The important thing is that adults are being encouraged to think for themselves. If they do they will



Sir Walter Perry

of continuing education provision is, in my view, cut-off in a young institution which has fully developed its basic undergraduate provision," he says.

The report states that the number of people making initial applications for OU places increased in 1977, although the overall number of applications was lower than in 1975—a factor attributed to the smaller number of previously unsuccessful applicants who re-applied for entry.

The Open University Report of 1977 published by the Open University, Walton Hall, Milton Keynes MK7 6AA.

Electrical engineers go it alone on test of entry standards

by Robin McKie

The electrical engineers have broken away from the other engineering institutions and are to introduce an accreditation system to test the academic standards of university courses. They are also to start demanding a second-class honours degree as their minimum entry qualification.

The moves have been agreed by the Institution of Electrical Engineers and they follow a report on education under training by a working party chaired by Mr J. Merriman, chairman of the National Computer Centre and past president of the institution.

At present, all engineering institutions require only an ordinary degree for entry although it is understood that their central body, the Council of Engineering Institutions, is shortly to urge that a "good honours degree" be made the general minimum standard.

This will be revealed when the council publishes its evidence to the Finniston committee of inquiry into the manufacturing industry

next month. But a spokesman for the electrical engineers said they considered that they were leading the field in the debate over standards. And they are to base their accreditation system on the American system of the Engineering Council for Professional Development.

At a recent open meeting, organized by the institution, the ECI president, Mr David Reyes-Garcia, urged Britain to adopt a similar system to the Americans. He said this system had kept university departments up to scratch and helped United States industry keep ahead of most other countries.

The Merriman report states that the growth of modular and interdisciplinary courses has made it difficult to determine, without detailed appraisal, whether their degree in science and engineering could be acceptable.

"An mechanism, where the institution reviews courses to identify those which satisfy its educational requirements, is essential," it adds.

NEXT WEEK

HE finance into the 1990s, by Gareth Williams

Pat Rogers reviews a new biography of Samuel Johnson

Peter Scott interviews the author of *Montaigne*

100 years of Liverpool University The University of Wales in Europe

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This London hospital has unusual foundation supports.

Luxury houses for sale

by Ngain Crequer

The University College of Wales, Aberystwyth, is to build 64 luxury houses on a sprawling 16-acre site which it owns. They will be sold to "selected" private buyers.

The freehold houses, four to an acre, will sell for between £17,500 and £35,000. The site overlooks Cardigan Bay, opposite the main campus.

The college emphasizes that no public money is being used to finance the development. It is coming from endowment funds. Any profit will go back to the funds and will eventually be used to benefit the university. The University Grants Committee is not involved. Its view is that although the scheme is unusual it is no role to play, provided no Treasury exchequer money is used.

The intention is to sell the houses to university staff or local workers whose intention is to stay in the area and who will contribute to the community. But the college realizes that it will have difficulty in making any stipulations stick. The vexed question of the house contracts is now being studied by its solicitors.

It is now ready to go out to tender. The Percy Thomas Partnership has designed the houses and work on the first batch, about 25, should begin this autumn. It is ready for occupation in spring 1979.

The land was either bought or bequeathed to the University in the 1930s.

Ceredigion district council has given outline planning approval for the whole site and detailed planning approval for the first phase.

ACADEMIC DEVELOPMENTS

Shoot-out in
Stirling
film degree

Undergraduates at Stirling University will for the first time this year be able to study western and European films as part of their degree.

The new film studies course comprises two parts lasting a semester each and will concentrate on a more specialized study of "Genre".

Dr John Izard, at present lecturer in English at the University of Coleraine, where he has been teaching film studies for several years, will be responsible for the course, which begins in September.

He will also be in charge of developing a film and communication studies department which is to include a study of television. The task will take at least three years.

Speaking of his plans for the future at Stirling, Dr Izard said: "The emphasis in the first two courses and after will be on films made since the Second World War. The functioning of the Hollywood industry will be given particular attention. Students will learn how to 'read the screen', how to evaluate films, and, I hope, how to enjoy more fully both popular and esoteric films."

He added that with the advantage of access to the Grierson Archive, located in the university's library, the film studies department would be well placed to establish a course in the British documentary movement. This would probably attract postgraduates who wanted to do research in the documentary tradition. Several enquiries have been received.

Administration
options at
Robert
Gordon's

by Maggie Richards

Demand for graduates with a sound knowledge of the needs of public authorities and for social workers with a grounding in administration has led to the creation of a new four-year BA degree course at Robert Gordon's Institute of Technology in Aberdeen.

All students taking the new degree will follow the same course of study for two years. Two separate study options will then be offered: one is a BA in Public Administration, while students interested in social work will take this degree with a qualification in social work.

To combine theory and practice elements of training, a total of 38 weeks placement has been built into the course, and training placements for students have already been arranged with a large number of agencies, stretching as far south as the Isle of Wight.

The normal entry age for students studying public administration is 17, but students following the social work option need to be at least 22. The new course is not intended to replace the existing two-year course run for the past 10 years at the institute for mature students and leading to the Certificate of Qualification in Social Work. Heavy demand for this course means that it will continue to operate in parallel with the new degree course.

Six combine on Middle Ages

by Patricia Santinelli

Six departments at Lancaster University have developed an undergraduate scheme in medieval studies combining the history and culture of the Middle Ages.

The course beginning next October aims to give students a broad understanding of the Middle Ages from the perspective of its politics, history, society, culture and languages.

The departments of history, Arabic and Islamic studies, classics and archaeology, English language and medieval literature, French contribute to the scheme.

Speaking about the new degree, Dr David King, director of studies, said that at many universities, different aspects of medieval studies were taught by departments as com-

ponents of various traditional degree courses.

"The Lancaster degree system, however, has enabled us to offer an interdisciplinary medieval studies scheme to undergraduates and to vary it to suit different interests."

Mrs Meg Twyross, chairman of the Medieval Studies Committee said that this interdisciplinary approach was particularly appropriate because in the Middle Ages, politics, society and culture were more "international" and their world picture more integrated than in any period since.

"Usually in universities, any attempt to make serious links between the traditional disciplines has had to be postponed to postgraduate level," she pointed out.

The new degree is in two parts. In their first year students majoring

in medieval studies take history, either two or three subjects throughout the second and third years, or one of these subjects in a course in medieval languages.

Part Two, students are required to select three units from the list of other options.

In choosing these, students select courses from at least two departments other than the medieval studies department.

They are advised by the director of studies about their combining courses, some of which have been specially designed for students taking a foreign language.

Students who choose to major in medieval studies have also taken one selected pair of subjects in the humanities in their second and third years alongside their major course.

Strathclyde moves
to develop
part-time learning

by Judith Judd

Strathclyde University is to begin a certificate in continuing education in October in line with the university's increasing commitment to part-time education.

The experimental course will be first offered in English studies and history but should be extended to other subjects later depending on the demand from students.

Students will receive their certificates after studying for not more than four years. The initial course is a success, the English and history departments may consider the possibility of developing it to cater for more advanced degree courses. Students would be able to take these part-time.

The decision to start the certificate follows the recognition of the university's traditional extension studies programme two years ago. The university says that "the extension of the university's adult education commitment was in line with contemporary thinking that United Kingdom universities generally should improve their facilities for those persons interested in higher educational opportunities who were nevertheless unable to engage in full-time study."

Professor I. E. Clarke, chairman of the continuing education committee and professor in the department of English studies, said: "We are reasonably sure that the courses planned will greatly benefit people in the West of Scotland where there has been a long involvement in adult education. Students enrolling in evening English or History courses will attend selected day classes alongside full-time undergraduates."

Mr Peter Nelson, director of continuing education, said: "Experience at national and local level suggests that free developments are desirable in the field of continuing education."

"The University has been sympathetic to the views of the Alexander report and of organisations such as the TUC that universities should make efforts to extend their teaching resources for the benefit of those who can only find time for part-time study."

Planning MA 'first'
goes to Trent

Trent Polytechnic at Nottingham is to run the first two-year masters degree course in planning to be approved by the Council for National Academic Awards.

The MA in Town and Country Planning is in effect an upgraded and extended version of the Royal Town Planning Institute's recognised two-year graduate programme instituted in 1964.

Approval by CNAA will allow an increased emphasis on providing an academic education as well as advanced specialist training for professional career in town and country planning.

It will also offer students improved opportunities to develop their own planning interests and expertise in practical and research areas.



Example of "Access" style.

£5,000 for literacy magazine

A new monthly magazine to cater for the needs of adult literacy students is being published by the National Extension College in Cambridge.

Financed by a £5,000 grant from the Adult Literacy Resource Agency, the magazine Access has been designed for use in local literacy schemes by students ready to move from one-to-one tuition to group or independent learning.

Ten issues of Access are scheduled to appear at monthly intervals to help students to practise their literacy skills on adult material and assist them in using their literacy skills in everyday life. The magazine, which is written by Mr Tom MacFarlane, of the Abraham Moss Centre, Manchester, is also intended for use by tutors as a basis for discussion and project work.

The first issue contains sections on motivation, a step by step guide to filling in an income tax return, and an explanation of the role of a local councillor.

Future issues will concentrate on other topics, including employment, health and welfare, trade union further education and training, and housing. There will also be regular features on letter-writing and keeping a diary.

Copies of the first issue of Access are available from the National Extension College, 10 Hills Road, Cambridge. Orders of two to five copies cost 25p each plus 5p postage. Orders of five to 20 copies cost 20p each, plus 5p postage on each.

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North American News
Campus launches drive to
improve maths teaching

from Clive Cookson

The University of California in Berkeley is planning to follow up its highly successful Bay Area Writing Project (BAWP)—which has produced a similar drive to improve school mathematics teaching.

BAWP started five years ago as a partnership between Berkeley and the high schools in the San Francisco Bay area, to improve pupils' writing skills through an intensive in-service training programme for teachers. Its success led to funding from the California State Department of Education and from the federal government's National Endowment for the Humanities to spread the project throughout the state and then, as the National Writing Project, all over the United States. This year 39 universities and colleges from San Diego to New Jersey are participating, and next year there will be 50 writing centres.

Now, back at Berkeley, a mathematics committee is planning a similar campaign to raise standards in maths. The committee is now at the point of talking about a "maths project" which will involve a series of writing workshops in other school districts.

It is becoming clear that the maths project cannot be a carbon copy of the writing project. "We're presently trying to find out what the problems are, and it turns out that the problems in mathematics may be very different from those in English," says Berkeley Professor Robert Park.

At the heart of the writing problem lay the fact that most English teachers in American secondary schools were trained in literature rather than composition. Therefore BAWP concentrated on improving high school teachers' writing skills and getting them to pass them on to their pupils—and their fellow teachers.

In contrast, says Dr Park, high school maths teachers are not well stocked with knowledge about the subject. The maths project is therefore likely to have to work at the primary level.

The mathematics committee is looking for members to admit primary school teachers in the United States, as in Britain, are asked by a largely female teaching corps, many of whose members are either not good at maths or see themselves put off it as school leavers because mathematics and science were regarded as boys' subjects.

The teachers are often frightened of maths and they pass their fears on to their pupils, giving the well-known "maths anxiety" syndrome. If Berkeley can find a way to break this

anxiety cycle, they will have achieved one of the most important educational breakthroughs of the century.

Meanwhile, the writing project goes from strength to strength. School districts are queuing up to send teachers to BAWP—at a cost of \$1,750 a year—and universities are clamouring to become writing centres. Each receives a \$15,000 grant to set up a writing centre that it can match this and guarantee to meet all its costs after the first year.

Twelve hundred Bay area teachers have now been helped by the original Berkeley centre, and they in turn have taught over 100,000 children. Over the United States, a million pupils are thought to have benefited already.

"We are getting through to those teachers who have never been gotten at before, the 70 per cent who never go to conferences, who have been untouched by any kind of staff development programme," says Mr Gray.

The heart of BAWP is an intensive five-week writing clinic on the Berkeley campus for high school English teachers. With university staff they do writing, discuss and possible remedies, investigate teaching methods, and spend a lot of time writing themselves.

After the course, the teachers become "teaching consultants". They raise the standards of composition in their own schools, and conduct writing workshops in other school districts.

In addition, BAWP provides year-round in-service training facilities for Bay area schools. Writing centres elsewhere are modelled on Berkeley, although they are free to adapt the programme to local needs. Dr Gray and his staff provide some training and Bay area "teaching consultants" travel to other centres to help them get going.

Evidence of the programme's effectiveness is now beginning to come in. Berkeley itself is now benefiting: the number of freshmen required to take remedial English has dropped from 50 to about 30 per cent.

The Carnegie Foundation has given Berkeley \$200,000 to do a long-term evaluation of BAWP, comparing writing standards in schools that have and have not participated, and examining the impact on teachers and students. Preliminary results should be known soon.

But, says Dr Gray, the greatest success of the project has been the strength of the cooperative support it has generated from universities, schools and local, state and federal governments for the huge task of getting American schools to improve their mathematics teaching.

Professor Park believes that the writing project and the future mathematics project can also play an important role in the University of California's affirmative action programme to recruit more black and ethnic students.

Three ways of fighting causes of cancer

Three ways of detecting cancer-causing chemicals have been developed by three independent research groups at the University of California in San Francisco.

They are among the first tests to measure the effects of potential carcinogens on the cells of mammals and humans.

The usual tests for carcinogens, including the famous Ames test introduced by Professor Bruce Ames at UC-Berkeley, work by detecting mutations they cause in bacteria.

Although the experimental cloning effects of known carcinogens on live animals and their mutagenic effects in the Ames test have been excellent, some scientists have wondered how they could be used to detect human disease.

The more complex chromosomal mutations that cannot be induced in bacteria, some critics have said, are being detected by a large scale of laboratory screening substances for carcinogenicity may be insufficient.

Hence the need for a cross-check using mammalian cells.

One of the new tests, developed by research groups led by Sheldon Wolff, Philip Oltman and Robert Painter are giving results that generally agree with the Ames test—for one important exception see below.

The best known of the three is Professor Wolff's test, which measures sister chromatid exchanges. All chromosomes (the X-shaped packages of DNA in animal cells) consist of two linked halves, the sister chromatids.

A special staining technique is used to stain one chromatid in each chromosome dark and leave the other pale. The margins causes the effects of the sister chromatid exchanges to be visible, giving a "bar-joint" appearance of the chromatids which can be easily observed with a microscope.

The American Journal of Science recently published a paper by Professor Wolff reporting that his test found saccharin to alter the DNA of hamster and human cells.

In this case, researchers using the Ames test could not detect any mutations caused by saccharin in bacteria, and Wolff's evidence will

Summer school
for security
top brass

Thirty or forty security chiefs will go back to school in August for an intense, two-week course conducted by Harvard's John F. Kennedy School of Government.

They will include generals, admirals, and top civilian policy makers from the Central Intelligence Agency, National Security Council, the State Department and other security related government agencies.

"The claim we make is that this programme has no counterpart either within or outside government," says its planning director, Douglas Johnston. "We are not interested in duplicating what's already provided at the service colleges or in other advanced training programmes, but rather in complementing it at a higher level."

The military, which has many training programmes for junior and middle ranking officers, recognizes the need for continuing education at top level and is greeting the new programme with enthusiasm, according to Mr Johnston, who was a senior civil servant in the Navy Department until last year.

Civilians in important government jobs also need training, he says, because many of them come from specialist backgrounds and have had little or no previous experience in government. This is more true of the United States with its huge turnover of politically appointed bureaucrats—thousands of new executives come to Washington when the administration changes—than it is of the relatively stagnant and isolated British Civil Service.

Harvard's School of Government is known as the place where America's top people go for continuing education. The new programme will supplement the established "programme for senior managers in government" and the "programme in environmental policy and management" for the security chiefs.

The planned curriculum for the security chiefs course does not fit standard national security categories. Instead of concentrating on specific strategic and tactical issues, participants will discuss Washington decision-making in more general terms, trying to see it from other perspectives.

"We want the participants to think and speak openly about the roles they and their colleagues play in making policy and on the interplay of governmental programmes," says faculty chairman Professor Ernest May.

The case method will be used to "give participants a vicarious experience of what it's like to be a member of Congress, a congressional staffer, a diplomat with a 6:30 deadline, or the Secretary of Labour."

The programme will deal only with unclassified material. But no foreigners will be invited to take part, at least on the first course, as the basis that it might inhibit discussion.

Report urges shake-up of
northern colleges

from our correspondent

Ontario's "northern dilemma" has long vexed the provincial government. It is whether to pay for educational equality by maintaining an expensive system of colleges and universities in the sparsely populated north of the province or to allocate its educational resources "efficiently" and accept inferior post-secondary education in the north.

It is a dilemma faced by many governments administering territories with widely differing population densities. And so far Ontario has come nowhere near resolving it, despite many years of argument.

Southern universities tend to feel that in the light of the "new reality" of declining enrolments and declining financial resources, the present system of northern colleges and universities is an expensive luxury.

Now, outside Professor David Cameron, from Dalhousie University, in Nova Scotia, has stepped into the controversy with an important report on post-secondary education in northern Ontario.

Professor Cameron, whose investigation was commissioned by the Ontario Council of Regents for Colleges of Applied Arts and Technology, has the resources to meet the post-secondary needs of the area it serves.

His main finding is that Ontario's two completely distinct systems of higher education, the universities and the community colleges (officially called colleges of applied arts and technology), were imposed on the north even though they are not at all appropriate for the area. He recommends integration of the two sectors and the merging of several institutions within them.

The rigid separation of community colleges and universities has produced what Professor Cameron calls a "truly remarkable debacle" at Port Arthur on the northern shore of Lake Superior. The city of 110,000 people had a university, Lakehead University, that had grown out of Lakehead technical institute and therefore had a major interest in applied arts and technology, and diploma as well as degree programmes.

But the establishment of a province-wide system of colleges of applied arts and technology in the mid-1960s led to the creation of a second institution, Confederation College, in the same community, "offering courses which were essentially extensions of those developed at Lakehead."

The resulting "conflict and mistrust" has not been resolved, despite a "tragically" successful series of task forces, commissions and committees. The only solution to the feud, according to the report, would be a complete merger of Lakehead and Confederation into a comprehensive new post-secondary institution "that will come much closer to meeting the needs of the four, eastern and north-western Ontario than is possible for either a college or a university alone."

The reaction of Confederation College president Bert Curtis, according to the local newspaper, was that a merger would be just

plain nonsense. He said the two institutions had completely different aims and methods of operation and would both be damaged by amalgamation.

Mr Curtis also challenged Professor Cameron's assumption that northern Ontario needs a different system of higher education to the south.

Other mergers recommended in the Cameron Report are between Nipissing University College and Canadore College in North Bay, and between Algoma University College and Sault College in Sault Ste Marie.

He stops short of recommending an immediate merger of Laurentian University and Cambrian College in Sudbury (the largest centre of population in the north) but he urges them to work together to produce a comprehensive programme of extension courses for northeastern Ontario.

Laurentian University has already issued a detailed critique of the Cameron Report, and the university and its affiliated university colleges (Algoma, Nipissing and Hearst) will meet this month to discuss its recommendations.

The Laurentian reply challenges Professor Cameron's proposal to integrate universities with community colleges.

It says the level of financial support for the hybrid institutions would be "left to political con-



Thunder Bay's Confederation College: merger recommended.

sideration, hence of educational criteria. This would risk the creation of inferior institutions with inadequate funding, offering programmes below the standards found elsewhere in the province."

The university also doubted Professor Cameron's assumption that integration offers advantages of economy and effectiveness. Indeed, the general response of the northern institutions is that they are already cooperating with one another and they are prepared to co-operate further in areas of duplication, but they want to steer clear of any merger.

The Ministry of Colleges and Universities in Toronto has shown an enthusiasm for the Cameron Report and seems to be hoping it will sort out the confusion. The ministry is keen for its college and university sectors to remain clear.

A similar reaction came from the Ontario Council of Regents for Colleges of Applied Arts and Technology, which acts as a sort of governing body for the 22 colleges. "I don't think you will ever see the things Cameron talks for in his final report. I don't think Toronto takes it all that seriously," the council's chairman Norman Williams told another northern paper, the Sault Star.

It is clear from the Cameron Report that the "new reality" has been adopted by a label for declining enrolments and financial stringency, is going to affect the northern colleges and universities more harshly than their generally stronger southern counterparts.

"They will continue to live with the inescapable reality of higher costs," Professor Cameron found the average overhead expense per student to be 40 per cent at Lakehead and Laurentian Universities, then at similar southern universities. But they must also face a much more serious shortage in their pool of part-time applicants. The numbers leaving high school are expected to fall 30 per cent by 1987 in the south, and only 12 per cent in the south of the province.

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Tension grows at top campus

Politicians view India's showpiece Jawaharlal Nehru University as a hotbed of subversion. A. S. Abraham reports

from New Delhi

India's most prestigious university, the Jawaharlal Nehru University (JNU), has become the focus of growing conflict between the federal government and academics believed to be Marxists or to have Marxist leanings.

One sign of the conflict was when the government had four school history textbooks written by supposedly Marxist academics withdrawn from the syllabus. The books have since been referred to "experts" who, by all accounts, have been unable to clear or to damn them. Attempts by rightists within the ruling Janata Party to get historians to condemn the books have not been very successful either.

The latest reports suggest that, as part of its effort to lighten the academic load on school students, which means cutting down the number of subjects and prescribed texts, the government will withdraw the controversial textbooks. It can then argue that it has taken them off not for ideological but for pedagogical reasons.

Among the authors of the textbooks are JNU academics, notably Dr. Romila Thapar and Dr. Bipan Chandra.

The textbook affair is only a small part of the general confrontation taking place between JNU and the federal government. Ever since it was founded in 1969, JNU has been under attack for various reasons. To many academics and educationists it is a costly and elitist showpiece. This feeling is understandable. Given the financial constraints and the huge numbers most universities have to contend with, JNU is truly privileged.

It has only 2,600 students, most of them postgraduates, and well over half of them are in residence. The campus is spacious, the buildings modern, the grounds well laid out, the library and other facilities excellent. The teacher-student ratio as good as 1:8.

JNU skims off the cream of the academic talent, especially in the social sciences. It is a national university with most of its students and faculty coming from outside the capital. Admission procedures are rigorous—those who get in are usually both bright and mature (many of them also happen to be obviously upper-middle-class and from English-speaking, well-to-do backgrounds).

While students elsewhere run amok to demand free cinema tickets or cheaper bus fares, the issues which agitate JNU students are national and international, "to revolution and changing the system", notices on posters calling for attendance at meetings to protest against the latest police firing on mineworkers or the latest attack by caste Hindus on Untouchables.

or to support the Patriotic Front in its battle against Jim Smith and the United States. Leaders who have settled with him.

To rightist politicians who were, until last year, in the opposition, the university was, and is, a monument to the (to them) dangerously ambivalent crypto-communist philosophy of the man after whom it is named and whom they opposed bitterly during his years of political dominance.

Because it embodied this philosophy, so these critics believed, Marxists and leftists generally were able to "infiltrate" JNU and, using Mrs. Gandhi's phony radicalism as a cover, to spread their influence among the country's intelligentsia.

Having come to power as one segment of the Janata Party, these detractors sought an opportunity not merely to cut the university down to size but also to turn the heat on those who were felt to have a subversive influence on students and on academic life generally.

The opportunity was provided by JNU students, many of them Marxists, or at least leftists. The students' union has traditionally been dominated by the Students' Federation of India, the student wing of the CPM, the Communist Party of India (Marxist), which is in power in two states, West Bengal and Tripura, both in eastern India. The present student union president is an SFI member.

In November last year, the students launched a major agitation for an inquiry into "excesses" at JNU during Mrs. Gandhi's Emergency rule and for the dismissal of four university officials, including the vice-chancellor. The university was closed for more than three weeks as a result.

It opened when the Prime Minister, Mr. Morarji Desai, who is JNU's Chancellor, agreed to hold an inquiry, but not only into Emergency "excesses" but also into JNU's affairs. Even then, however, it was to be a "limited" inquiry (THESE, December 9, 1977, and December 16, 1977).

Both students and teachers were initially incensed by what they felt was a "limited" inquiry. But the students, who are not Marxist, and the faculty, who are not quite so resigned.

The Prime Minister's office has appointed a special inquiry officer, former member of the renowned Indian Civil Service, to examine complaints pushed into boxes. These are passed on to the vice-chancellor who sends them to the head of department who then tells the academics who are the object of the complaints.

Since many faculty members say the charges are often frivolous and the charges are often frivolous and



Mr. Desai: agreed to inquiry

ill-substantiated, they do not reply to any unless specific details are given. At the same time, they protest against being asked to explain why they happen to hold the views they do.

There is general scepticism about the inquiry. Some students think that, by widening the scope, the inquiry has been diluted and rendered innocuous, especially since it might take ages before it is completed.

Others, including some staff members, feel the inquiry will be completed quite soon and that the present quiet on the campus is only the lull before the storm. They are convinced that the real object of the investigation is to go into past appointments in order to establish how, through blatant nepotism and favouritism, Marxist "infiltration" took place. Later, they contend, "remedial" action will begin to be taken.

As evidence of the shape of things to come, they point out that while the Chancellor, as the Prime Minister, has no real powers under the university statutes, he recently asked for a complete list of the experts who sit on selection committees.

According to some faculty members, because of the strong and adverse public reaction, particularly in the liberal, English-language national press, to the rightists' attempts to start a witch-hunt of leftist academics, the campaign has not made quite the headway it would otherwise have done.

While these academics concede that there are also socialist and liberal elements within the Janata Party and in the government, they believe that the chauvinistically Hindu, conservative, upper and middle-caste groups are on the ascendant. These groups are felt to be not merely communal and pro-Hindu but also anti-intellectual and the first bastion of the intellectuals they want to bring down is JNU.

Australia

Study leave may be cut in move against 'bludgers'

from John Kirkaldy

Major changes in study leave arrangements for third-level institutions are proposed in a recent draft report of the Tertiary Education Commission (TEC).

The report, issued by a working party headed by Professor David Dunbar, was presented to the federal parliament and cabinet has been invited by July 14. Among the major proposals are: leave should not be an entitlement but should be based on the needs of the institution and the capacity of the staff member to make effective use of such an opportunity. The length of time concerned should be generally reduced, and a much greater emphasis should be placed on study within Australia, rather than automatic travel overseas.

New developments within Australian third-level institutions and the circumstances facing them have brought about the report.

In the past, the "tyranny of distance" meant that Australian academics felt cut off and regarded study leave as an essential requirement for research and for keeping up with the latest developments in their fields.

Research opportunities were limited (the country's first PhD was awarded only in 1947) and academics looked first to Britain, the United States and Europe for inspiration. As early as 1860, the University of Sydney was granting unpaid leave to a professor so he could go to Britain and Europe to visit laboratories.

This situation has now changed dramatically. Improvements in communication have reduced Australia's isolation, facilities have greatly expanded, and research now has a much more Australian content.

It is the country's financial situation that has given the impetus for an investigation. In the last few years, the media have carried several stories concerning academic "bludgers" (Australian slang for a sponger on public funds). The current economic and the present austerity programme in education have made any government handout the subject of scrutiny.

It came as no surprise, therefore, when the federal minister for education, Senator John Carrick, authorised a working party in July 1977 (investigations were already under way under the old Universities and Advanced Education Commissions before they merged).

Study leave has boomed along with tertiary education (in 1970,

Australia had eight universities, now it has 19). In 1975, 928 academics, 114 of whom were above the age of 50, took leave at a cost of \$15.8m. (In the total number involved was \$50.)

At present, any university lecturer or above is entitled to leave of absence every six months or a full year after six years of service. A similar scheme exists in colleges of advanced education (CAEs) with a few variations at individual institutions.

The report urges that a new philosophy be attached to study leave. Its very name should be changed to "special study programme", as the present title gives the wrong impression to some members of tertiary institutions and the general public. This programme would be a specific course of study in advance by the individual and the institution concerned.

The report urges that the present six month entitlement be reduced to three months, and that leave should be carefully monitored and its granting should be more strictly controlled.

A six month ceiling for some leave should be imposed except in exceptional circumstances. Assistance for academics' leave should only be allowed if it were away from Australia for more than six months.

The report also suggests that the investigation should be open to the public, the report believes, so that it can understand the purpose and nature of the study leave system.

The working party believed that "professional experience" programmes should replace study leave in CAEs so that members gain practical and vocational experience. The same time limit for universities should apply.

Members of CAEs, they argue, should not use professional experience programmes for obtaining additional qualifications but that should be provisions for personal release for this purpose.

The report has been strongly criticized by staff associations and universities. The Australian University Staff Association said that the report could be "disastrous" if Australian universities were "to maintain their present status and reputation in the international community."

CAEUSA also criticized the lack of judgments being made on individual staff members' work as well as a special studies programme in concerned.

Peter Scott interviews the author of 'Montaillou', the account of life in a 13th-century French village

A factual history of ordinary medieval folk

Montaillou, by Professor Emmanuel Le Roy Ladurie, professor of the history of modern civilization in the College de France and one of the editors of *Annales*, is a serious work of history. It is perhaps the most important book on the medieval peasant in Europe for more than a decade.

Six hundred pages long in the French original (reduced to just under 400 in the English translation published last week), it is an attempt to penetrate to how the inhabitants of Montaillou, a small village high in the foothills of the Pyrenees deeply tainted by the Cathar (Albigensian) heresy, thought and behaved at the end of the thirteenth and beginning of the fourteenth centuries.

Montaillou is also a best seller. It has already sold more than 140,000 copies in France, more than the autobiography of Muhammad Ali. A film script based on the book has been written by Professor Le Roy Ladurie. Even Francois Mitterand announced that he had read Montaillou.

Professor Le Roy Ladurie was surprised, but also delighted, by the popular success of his book. "I always wanted to go beyond purely academic circles," he explained. "Writing for historical colleagues is not completely satisfying. It is a little like writing for oneself."

However, the success of Montaillou was not entirely accidental. Professor Le Roy Ladurie started to write it as a novel rather than a work of history. He attributed its popularity to two causes. The first is the growing enthusiasm for regional studies in an over-centralized France. To the inhabitants of southern France, the Occitan, Montaillou had an impact not dissimilar to that of a more profound level than that of Alex Haley's *Roots* on black Americans.

The fact that the book is also concentrated their criticism. He admits that he was attracted by the sheer romance of some parts of the archive. As someone who had in his youth wanted to be a priest, he was fascinated by the love of Pierre Clergue, the village priest (and secret Cathar) for Béatrice de Planissoles, the *châtelaine* of Montaillou, which survives through almost six centuries in the immortal transcription of the bishop's secretaries.

Professor Le Roy Ladurie was also attracted to Montaillou at the turn of the thirteenth and fourteenth centuries by its sympathy for southern France. Although born in Normandy he married a wife from the south and spent eight years in Montpellier. He even stood as a candidate for one of the less prominent socialist groups in the municipal elections, although his political ambitions were cut short when he

concerned with Albigensianism, the southern heresy so bloodily repressed by the northern French in the thirteenth century, heightened its regional appeal.

But a more profound reason for the success of this book is the extraordinary quality of the archive on which it is based. This is the inquisition into heresy carried out in Montaillou and surrounding villages between 1318 and 1325 by Jacques Fournier, bishop of Pamiers, and later Pope Benedict XII.

The inquisition court sat for 370 days during these years and examined 578 people. What they replied to the persistent and painstaking questions of the bishop was recorded by 15 secretaries.

Professor Le Roy Ladurie was fascinated by the extraordinary quality of the Fournier archive which has "a tape-recorded quality". He has used it to penetrate into the mentality of the medieval peasant in a way that has never been attempted before, mainly because the appropriate material was not thought to be available.

The Fournier archive was discovered in the Vatican library in 1875 by a German priest interested in medieval heresy. He translated parts of the Latin original into German. The archive was later examined by a French bishop who, although a good scholar, allowed his horror of heresy to overcome his recognition of its historical value.

It was only in 1965 that a comprehensive French translation in three volumes of the Fournier archive was eventually produced, strangely enough by an employee of the *Elysee*, the French President's office, rather than by a priest or a professor.

Professor Le Roy Ladurie was one of the few French historians to recognize its value in spite of its admitted scholarly shortcomings, on which most French medievalists had



Professor Emmanuel Le Roy Ladurie.

received only 2.5 per cent of the vote.

His academic interests also predisposed him to take an unusual interest in the Fournier archive. Although an early modern historian rather than a medievalist (a fact which helps to explain the note of caution in some reviews of *Montaillou* in France), he is a specialist in the history of Languedoc, which is close to the uplands of the Ariège where the village is situated. He is the author of *The Peasants of Languedoc* (1966).

As a standard-bearer of the *Annales* tradition of French historiography and an admirer of Anglo-Saxon anthropology, he was naturally fascinated by a document which gave such a unique insight into the daily life and the mentality of the medieval peasant.

The world that is illuminated in *Montaillou* does not fit in well with

the traditional view of village life in the middle ages. Instead of the oppressive and hierarchical manor there appears a largely autonomous, even egalitarian, community, in which the *châtelaine* is not ashamed to sleep with the priest, a man of much humbler social origins.

In Montaillou the burden of feudalism was apparently light with the feudal lord, the Comte de Foix, a distant and almost benign figure. Admittedly the power of the church, whether in the person of the early Pierre Clergue or that of the austere Jacques Fournier, but a more direct impact on the village and even this was external to the community which rested on much more ancient values—in particular, respect for the domus.

Part of the reason for this discrepancy, Professor Le Roy Ladurie believes, lies in the differences of sources. The medieval historian is often forced to rely on such documents as contracts and the records of legal decisions which chronicled the formal relationships between people. He, however, used a document which because it was an inquisition into heresy, dug into the beliefs and attitudes of individuals.

Montaillou is perhaps too idiosyncratic and too successful a work to serve as a model. But Professor Le Roy Ladurie believes that the use he has made of the Fournier inquisition has shown the potential of such documents for historians.

The inquisition was active in northern Italy, southern France and Spain until the sixteenth and seventeenth centuries. It acted in his words as a "spiritual police" in the quarters, "inquiring in the most intimate detail into the beliefs of and the behaviour of those it suspected."

Professor Le Roy Ladurie, however, would like the final judgement on Montaillou to be in terms that are both more popular and more profound than simply its contribution to written history.

"Today Catharism is no more than a dead star, whose cold but fascinating light reaches us after an eclipse of more than six centuries," he writes. "Montaillou itself is much more than a courageous but fleeting deviation. It is the factual history of ordinary people. It is Pierre and Béatrice and their love; it is Pierre Maury and his flock; it is the breath of life restored through a retrospective Latin register that is a monument of Occitan literature."

The men who mould our view of science

Scientists have an ambivalent attitude to media coverage of their work. While they are naturally pleased to receive publicity for their research, they remain suspicious, fearing headlines like "Boffins in test-tube baby row" as a consequence of speaking to the press.

But such phenomena are relatively new events: 100 years ago, a scientist would usually act as the popularizer of his own work. The specialist science correspondent did not appear on the scene until after the first world war, although his has been mainly confined to the last 30 years.

The trend reflects increasing specialization and professionalism of both scientists and media correspondents, according to a newly published study by the Primary Commission Research Centre at Leicester University. And as a consequence, the authors of "The Media and Science" say, the public is less likely to be misled by the sensationalism of the popular press.

Against this, however, the Commission is on record as committed to the increasing of the public's knowledge of science. Equally, it is the technical side of industry both in the public and private sectors which is the best way of doing this, implicitly the universities.

It is a strange contradiction, says the study, that while the public's knowledge of science is generally poor, the public's image of science is generally poor. However, there are signs of change.

The debate on the responsibility of scientists for the consequences of their research—in particular the environmental scare—has led to a more critical approach on the part of the media correspondents, the study states.

Predictably, scientists tend to



resent this change, believing it leads to destructive, rather than constructive, attitudes. Equally predictably, journalists see the change as healthy, leading to informed criticism. "Judging from other areas—such as politics—where this type of alteration is endemic, agreement is most unlikely to be reached," states the study. "However, we find that the points of agreement concerning the nature of scientific research are far more numerous and striking than the points of disagreement."

The study, financed by the British Library, includes a three month survey of newspaper items devoted to science-related topics. The researchers conclude that medical items predominate in press coverage. The more popular the newspaper, the greater the proportion of stories devoted to biomedical topics. *The Times* science coverage consisted of 79 per cent biomedical stories in the Daily Express it reached 94 per cent.

Obviously, the more popular the newspaper, the more limited is its remaining coverage of science. And the researchers believe the science presented in the down-market press is narrow in orientation and limited in amount.

Equally, unfortunately, many newspaper stories, particularly those

on behavioural research, are merely humorous anecdotes. They invite the reader's ridicule and place him outside and against scientific activity. The scientist is frequently seen as an eccentric, impractical and often ridiculous figure investigating what everyone knows anyway. The reader, because he possesses common-sense, as defined by the newspaper, is invited to feel superior to the scientist.

On the question of sources, the study points out that although only a very small fraction of all science information generated ever appears in the media, the research journal still remains a primary information source for journalists. However, many science correspondents also use an extensive network of contacts within the scientific community whose most important function is to vet possible stories.

But as science correspondents are mainly centred on London, they tend to make more contacts in the South-East of England. "This is not to say that they ignore scientists elsewhere—the North of Scotland for example—but rather that they are operating under limitations which tend to restrict the range with whom they come into frequent contact," adds the study.

Because journalists generally work to tight schedules, correspond-

ents respond by developing a variety of work routines. These include building their reporting round annual events and conferences. "As a consequence, science reporting often seems to convey on disco events, and material presented at them is more likely to appear in the media than might otherwise be the case."

These factors, and others, tend to produce a uniform image of science which may often differ from that accepted by scientists. And a similar tendency emerges when television's science coverage is considered. In its investigation of various broadcasts, the study reveals a predisposition to see science as a neatly integrated and collaborative enterprise. This is translated into programmes in several ways.

Most science broadcasts present research as a collaborative effort, despite the fact that the producers were often aware of professional disputes between different groups of researchers. Similarly, the dead-ends and contradictory results that are an integral part of any scientific undertaking are generally cut.

Other problems are less dramatic but can still have an effect. Camera techniques, and the study concentrated particularly on those in the BBC "Horizon" series, may bring

trouble. Close-ups of scientists talking about their research, which aim to concentrate the viewer's interest, can be an embarrassment. They spread large faces grotesquely across the screen and cause audiences to lose sight of the whole subject and its setting.

Even the technique of showing participants speaking at an angle to camera (as opposed to professional broadcasters who talk directly to camera) promotes a sense of witnessing, rather than being directly involved in any communication.

But in general the study is not particularly alarming. Science correspondents are seen as dedicated specialists, highly skilled and conscientious craftsmen with a considerable degree of self-awareness.

There is a natural tendency to concentrate on the "newsworthy", which may sometimes be speculative or borderline. As a result science may not be seen in the same way that scientists view it, but usually correspondents accept the values of the scientific community. As a result, they typically work within a framework that is acceptable to scientists, the study concludes.

Robin McKie

Science Correspondent

China

One in twenty wins a place

by John Gardner

Only one candidate in 20 succeeded in winning a university place in the national entrance examinations which China held at the end of 1977, says a New China News Agency report.

According to the report, 5,700,000 people took the examination, of whom 278,000 were subsequently enrolled.

Even these figures understate the difficulty of getting a university place for it is known that a considerable amount of "screening" took place to determine eligibility to sit the examinations, and one official estimate last autumn suggested that some 10 million young people were probably anxious to do so.

The latest report provides some information on the background of successful applicants. In recent months, the Chinese press has carried a number of interviews with university officials, and one spokesman is quoted as saying that 80 per cent of the new students are former workers, peasants, soldiers and government employees.

As virtually the whole labour force falls into these categories, the remaining 20 per cent may be assumed to be middle school students of outstanding ability, who have been recruited directly to university "without obtaining work experience—a situation that would

have been unthinkable a couple of years ago.

As for class background, the spokesman stated that 87 per cent came from the families of workers, peasants, soldiers, cadres and intellectuals, but he did not break down his statistics to show how each of these groups had fared in what are known to have been the most rigorous examinations held since the Cultural Revolution.

Nor did he reveal the identity of the remaining 13 per cent, in silence on the matter, coupled with recent articles insisting that children of "bad" family origins must not suffer discrimination, suggests strongly that people of "bourgeois" and landlord descent have not done too badly.

The spokesman was obviously concerned to refute possible charges of elitism in the selection process, and claimed that "socialist colleges are not ladders for privileged strata", and that "in New China everyone has equal rights to get to college".

He went on to admit, however, that considerable differences remain between the quality of rural and urban schools. This problem he could not be solved "by changing the principle of selecting the best students" for university. The answer, he said, is raising the quality of rural schools, not in favouring the "gang of four's" policy of "levelling down".

Ireland

Women's victory in student polls

from Paul McGill

Women candidates have won the presidency in student union elections in four of the five university colleges in Ireland.

At Trinity College, Dublin, Ms. Sue Jameson became the first female president when she was elected on the first count in a record poll of over 2,000. Ms. Anna Keogh made history in Maynooth, which was confined to men students until a few years ago, when she was returned unopposed.

Colleges in Cork and Galway elected Ms. Brenda Sheehan and Ms. Gráinne McMurrough respectively. The victories reflect the fact that women now constitute 42 per cent of enrolments. In teacher training colleges, women take 64 per cent of the places but, ironically, in college which admitted men for the first time two years ago has had a male president ever since. Women make up only 22 per cent of the students in the technological sector, but here they maintained their force, hold when Ms. Margaret Rowe was re-elected president in Waterford Regional Technical College.

France

Prime minister's proposal causes concern among elite

from Guy Neave

A call for the pumber of students in the *grandes écoles* to be doubled over the next five years has caused consternation in the elite sector of France's higher education system.

The suggestion included in Prime Minister Raymond Barre's electoral manifesto, took on a new importance with his poll victory. Despite the uproar, it is not especially original. First hints in this direction go back to the mid-1960s as part of the overall planning for the expansion of higher education.

Officially, there are some 150 elite *grandes écoles* covering around 35,000 students. Custom identifies a further 90 establishments as the *grandes écoles* sector—most of them institutes of business management and administration.

For most of the *grandes écoles* are the *École Polytechnique* and the *École Nationale d'Administration*. The former, run by the Ministry of Defence, turns out engineering administrators for the major state technical corps. The latter, run by the Civil Service Ministry, places its students in the diplomatic corps, the Conseil d'Etat and the tax inspectorate.

First among M. Barre's objectives is the expansion of the number of technical executives in industry. The prospect has not been met with cries of joy by the *grandes écoles*. It is very much a mixed

blessing. Though increase in student numbers is seen as being fortunate for some, it is seen by others as the first step on the path of educational inflation.

The exclusive degrees and diplomas awarded by this sector of higher education will, it is suggested, be devalued by the sheer volume of graduates.

A major obstacle to expansion is the fact that in France the title of engineer is legally protected. Recognized by the state, it confers considerable advantages in terms of wage and salary structures. Because the numbers are seen as a distinct threat to the engineering mafia.

Against this, however, the Commission is on record as committed to the increasing of the public's knowledge of science. Equally, it is the technical side of industry both in the public and private sectors which is the best way of doing this, implicitly the universities.

It is a strange contradiction, says the study, that while the public's knowledge of science is generally poor, the public's image of science is generally poor. However, there are signs of change.

The debate on the responsibility of scientists for the consequences of their research—in particular the environmental scare—has led to a more critical approach on the part of the media correspondents, the study states.

Predictably, scientists tend to

John O'Leary on the grim struggle by SACHED to provide independent higher education for blacks in South Africa

Teachers fight on to give Blacks their rights

The prospects for an independent initiative to provide higher education for blacks in South Africa have seldom looked gloomier. Yet leaders of SACHED, the South African Council for Higher Education, are refusing to concede defeat despite a series of setbacks.

Twenty years of work within the apartheid system do not appear to have played government suspicious that SACHED is a disruptive influence. In that time it has expanded its efforts on behalf of blacks from the provision of a small number of bursaries for students to take external degrees, to direct contact with some 2,000 students on a number of educational levels.

Now, however, just as it seemed on the verge of a breakthrough in effectiveness, SACHED is left to pick up the pieces of its most important programmes. Two have been abruptly ended by official action and others have been hit by the loss of four members of staff in a month.

Two black members of staff were detained along with the rest of the executive of the African People's Organisation, a new black party which had not even drafted a constitution before coming to grief. Then, more seriously for SACHED, banning orders were served on Mr David Adler, the trust's director, and Mr Clive Nettleton, its chief educational consultant.

Both were key men in the organization and the five-year bans, for which no reason has been given, prevent them from working in any field of education. They are restricted to Johannesburg, where they must report weekly to the police, may not enter a number of premises, including schools, and are forbidden to attend gatherings of more than two people. Neither man is allowed a passport.

The task of leading SACHED through the time of crisis consequently falls to Mr Theo Derkx, a Dutchman who was one of the council's founders and has been Mr Adler's co-director since 1971. Mr Derkx was on a fund-raising tour of Europe when the banning order was placed, but was allowed to re-enter the country last week.

With almost one-third of the 2,678,000 economically active blacks in the 20-49 age group still totally uneducated, the need for extra assistance for the blacks is urgent as ever. To bring black educational spending up to the white level of R650 per pupil annually would mean increasing the education budget to 13 per cent of the gross national product—by far the highest in the world and clearly out of the question.

Indeed, the South African government has yet publicly to discard De Vrooy's policy statement in introducing the Bantu Education Act, that there was no purpose in providing an education for blacks qualifying them for jobs outside their own community above a certain level. To do so was dishonest and disrupted the community life of the black as well as the European.

Since that statement in 1954 there have been advances in black education, but per capita spending remains minimal compared with that on the other races. Although the black school population almost doubled in the 10 years up to 1972 and spending rose from R17 to R50 per head, the per capita spending on whites rose by R200 in the same period.

The division is just as clear in the present number and qualifications of teachers. The sharp rise in the school population worsened the pupil/teacher ratio from 1:54 in

1960 to 1:56 in 1973. And, while all white teachers have qualifications at least equivalent to Matriculation, more than 10,000 of the 68,000 black teachers have no formal qualifications. Less than 2 per cent of black teachers have university degrees, compared with 31 per cent of whites.

Since 1959 blacks have been prohibited from the white universities except by special permission, where particular subjects are not available in the three universities set aside for them.

Against this background SACHED sees its alternative approach to adult education as the only means of improving the educational life of the blacks. With a staff of 90 operating from centres in Cape Town, Durban and Johannesburg, the trust aims to reach students in their own community, usually through correspondence courses.

However, the events of the past year have raised questions about how far the government will allow this approach to succeed. As the trust's annual report says: "Nineteen seventy seven was a pressure year, but 1978 was to be the year in which marvellous things were to happen. These dreams were rudely shattered in the latter part of the year."

First came the sudden and unexplained announcement that the Teacher Upgrading Programme in Bophuthatwana was to be terminated, the instruction of the homeland's cabinet. The project, which was co-sponsored by the Bophuthatwana Education Department, SACHED and the Anglo American Group Chairman's Fund, had run for three of its planned five years. The aim was to help 1,000 unqualified teachers to gain certificates of the Bantu Education Department and to develop a clear and efficient in-service training scheme for years to come.

Its closure was said to be contrary to the wishes and expectations of the three parties and SACHED has now decided not to have further programme in the homeland.

The trust's most ambitious project and its first attempt to become a mass organisation has also been a victim of official policy in the last year. This came in the form of the ban on the highest-selling black newspaper, *Weekend World*.

By 1977 the supplement had grown to 24 pages a week varying from advice on practical matters to more conventional adult education. The paper had a circulation of 230,000, but after students encouraged to use the supplement for group study, readership was estimated at 1.3m.

However, the scheme, which had produced unprecedented response, was abruptly ended last October when *Weekend World* was banned by the Minister of Justice, Mr J. T. Kruger.

Even now, after the loss of David Adler and Clive Nettleton, SACHED's trials may not be over. One of the main themes of the recent South African election was opposition to "outside interference" and 85 per cent of SACHED's £500,000 income for 1977 came from grants from abroad.

A Bill now before the South African Parliament could subject all fuel, electricity, whether from outside or inside the country, to government control.

Nothing daunted, Theo Derkx has won the approval of donors for a number of new programmes, including the establishment of the education trust and a basic education programme to allow slightly educated adults to improve their literacy and become numerate.



Cambridge luminaries: Lord Rutherford (left) and A. A. Richards in the early 1920s.

Lost innocence and the pursuit of early glittering prizes

Cambridge between the wars was a prism which refracted the political and moral turbulence of an age. It produced in two decades a spectrum of men and ideas which reshaped the intellectual contours of our world. At the close of the Great War it possessed an almost Arcadian innocence; in the 1930s it had become a reeking sewer of Marxism. But all the while it retained its dotty idiosyncrasies and, above all, its unique creativity.

In a book published last week the lives and thoughts of the teachers and students at Cambridge in those years is lovingly recorded. Its author, T. E. B. Howarth, is today senior tutor of Magdalene. Born in 1914, he was high master of St Paul's and a personal aide to Field Marshal Montgomery. In *Cambridge Between the Wars* he celebrates the controversies and discoveries that dominated Cambridge life while England herself was convulsed by the general strike and the depression.

Howarth deals with the 1920s and 1930s in separate parts, but his story is not a formal and chronological history. In each part there are chapters devoted to "men, women and manners"; "the advancement of learning"; and "politics". But despite its neat categories the book eschews detailed analysis or historiography. Instead it strives to bring alive the exciting consciousness of human eccentricities and great scholarship which gave the university its distinctive cachet.

At the beginning of the period Cambridge had to exorcise the cruelties of the War. In 1918 Bertrand Russell was removed from his lectureship at Trinity for advocating pacifism. In 1920 Norman Angell, founder member of the Union of Democratic Control, author of *The Great Illusion* and later a winner of the Nobel Peace Prize, was denied a hearing at the university "and only rescued from immersion in the river by police intervention". In 1919 ex-officers interrupted a debate between the Cambridge Socialist Society and the Cambridge Independent Labour Party and forced three of the speakers to stand on a table and sing "God Save the King".

But the end of hostilities also meant that the university was able to grind slowly back to life. During the war the number of students in residence had fallen to 235. By January, 1919, the number was 2,535, by May 3,844. Demobilization brought back a dazzling pantheon of dons who were to reach eminence in their disciplines. From the Treta came Maynard Keynes and from interment came the physicist James Chadwick, who was later to discover the neutron.

The early 1920s were, however, a conservative period, both politically and intellectually. Howarth quotes Basil Willey, then a young Cam-

Peter David takes a look at a new book by T. E. B. Howarth (below), senior tutor of Magdalene, which lovingly records the lives and thoughts of teachers and students at Cambridge between the wars.



bridge English lecturer: "Of the major corrosives of the century, of Marx and Freud, for example, the book eschews detailed analysis or historiography. Instead it strives to bring alive the exciting consciousness of human eccentricities and great scholarship which gave the university its distinctive cachet."

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more rapidly. In 1919 Ernest Rutherford became director of the Cavendish Laboratory and, in his own words, "made some experiments to test whether any evidence of transformation could be obtained when alpha particles were used as bombardment". The result meant that man could enter the atomic nucleus and the heroic age of physics was born.

A fellow physicist, P. M. S. Blackett, described the Cavendish of those days in these terms: "He is a jack of all trades, versatile but amateur craftsman. He must blow glass and turn metal, though he could not earn his living as a glass-blower nor even be classed as a skilled mechanic; he must carpenter, photograph, wire electric circuits and be a master of jigsaws of all kinds; he may find invaluable a training as an engineer and can profit always by utilizing his gifts as a mathematician."

The progress of the university in physics was, of course, matched by its philosophers and anthropologists. In 1922, for example, the university was Howarth says, conservative in outlook. The main political enthusiasms of the majority of its dons were "hostility to Bolshevism, suspicion of the motives of trade unions, Labour politics and a belief in the continuing utility and virtues of the British Empire".

In the 1930s it was all very different as dons and undergraduates politicized their consciences in the face of massive unemployment. In 1933 Julian Bell wrote his famous letter to the *New Statesman* complaining that politics had replaced poetry as the central subject of ordinary intelligent conversation. "We are all Marxists now," he concluded. Howarth dismisses the letter as nonsense, in 1933 at least.

However, himself staunchly opposed to pacifism and to Marxism, says: "The two most intriguing questions for the social historians or for that matter the psychologists are how and why quite many intellectually gifted people of the time came to believe in a salvationist belief in Stalin's Russia and consistently preached pacifism and disarmament, while at the same time urging resistance to armed fascism".

Despite the political turbulence, however, Cambridge continued between the two wars to push forward the intellectual boundaries. There was Rutherford in physics, Keynes in economics, Trevelyan in history, Housman, Richards and Lewis in literature, and Wittgenstein in philosophy. The contribution of Howarth's book is to show how much the intellectual achievements of those men were nourished by the extraordinary fertility of a singular institution.

Higher education finance into the 1990s

One of the cardinal principles of public sector decision-making results from the uncertainty of the future and an asymmetry between the rewards for being right and the penalties for being wrong in any assessment of likely outcomes. Thus in decision-making it is at least as important to guard against being wrong as it is to take that course of action which would be best if future circumstances on policy were known.

In the situation in the DES discussion document "Higher Education into the 1990s", when most "reasonable" projections indicate an expansion of demand for higher education before a period of at best slower growth and at worst decline, there can be little doubt that some form of "tunnelling through the bump" will be seen by the Government as the "least bad" policy and the one that is most likely to be followed.

If they assume that the actual growth of demand will follow the central or upper assumption and in the event actual demand falls below the central assumption, the subsequent necessary contraction will be far more painful than would be a sudden rapid expansion of capacity if current decisions were mistakenly based on the low variant. In other words by "betting" on the low variant in the immediate future the Government is standing itself in a position of being the high variant. The pressure to adopt such a strategy is strengthened by the fact that for 10 years the proportion of 18-year-olds entering higher education has not increased.

The most rational policy from the government's point of view entails some risk of failing to meet student demand for a few years followed by an acceptance of the desirability of taking steps to help universities and polytechnics with their staffing problems and in the attempt to stimulate demand both from their traditional clientele and from new types of student. Can it be made acceptable?

The first point is that it would be much easier if there were a firm statement by the Government of the major political parties and the educational institutions that until a better principle is widely accepted they intend to adhere firmly to the Robbins principle. Thus any qualified student seeking a place in higher education should be able to find one together with an adequate maintenance grant.

However, such an acceptance does preclude the Government from attempting to persuade students to defer their demand for places and the institutions to accept temporarily more intensive use of their physical resources and staff in return for financial commitments which will be useful later, or when the bump is passed.

The most powerful instrument of the Department of Education and Science has for attempting to defer demand for higher education is its grant to mature students relative to the standard grant and effectively a reduction in the age at which a student qualifies as "mature", as suggested in the discussion document. This is an obvious strategy. But there is a dilemma.

An immediate announcement would increase demand from adult students at just the time when it is hoped they will moderate their demands on higher education facilities. Conversely an undertaking by the Government to increase mature student grants from 1984 would undoubtedly be greeted with a certain amount of scepticism.

One solution to this dilemma is an adaptation of an idea first put forward by the Carnegie Commission in the United States. This is the issue of "output" (or nationally) of a book of vouchers to school leavers from say 1980 onwards, entitling them to a number of years of full-time study on an appropriate course or equivalent part-time study.

Students with work experience, could be provided with making the maintenance component of the grant correspond to whatever rate of unemployment is in place at the time they are entitled to the voucher. It is perhaps without loss to his argument to benefit should be subsequently become unemployed. Such a scheme would be the attraction that there would be a delay between its inception and the eligibility of adult students to take advantage of it.

There is indeed a case for integrating the maintenance component of student grants entirely with unemployment benefit schemes.

Student grant policy is one of the few policy instruments by which the Government can influence the demand for higher education. Similarly the most effective instrument at their disposal for promoting other desirable changes in higher education is control of finance. In the last analysis the Government is in a position to impose almost any global settlement it wishes on universities and polytechnics. However, this is a blunt instrument and by itself changes in the broad aggregate of funds are likely to be an inefficient way of achieving desired ends.

If the anticipated decline in demand in the late 1980s materializes and the Government reduces resources by a corresponding amount, institutions will be forced to close. However, there is no

with overseas students. The arguments about the inequity of expatriate taxpayers for subsidizing often quite wealthy students are counter-balanced against long term benefits to our foreign policy that may result from having future leaders who feel an intellectual debt to Oxbridge or London or Lancaster.

Arguments that we ought to accept a moral obligation to help students from third world countries who face special hardships confront the fact that in many of these countries income distribution is very unequal and many (but by no means all) students who are able to study abroad come from the wealthiest one per cent or so of their populations.

The best way of supporting deserving students from overseas is through generous scholarship schemes that are seen explicitly as part of our foreign aid programme and are recognized as such. There

to make universities more responsive to the wishes of their consumers, but Lionel Robbins, the economist, was without doubt aware that this was the implication of the report's claim that "up to a point it is better to subsidize students than institutions" (paragraph 622). This is an old tradition in the economics of education dating back at least to the 1770s, when Adam Smith was horrified that as a result of the guaranteed income of Oxford University "the greater part of the public professors have, for these many years, given up altogether even the pretence of teaching". He compared the situation at Oxford very unfavourably with that at his own university, Glasgow, where the bulk of the income of the university came from fees paid by students.

Of course, there is no doubt that an increase in the fee component of university income will make the financial administration of universi-

is a good case for increasing the proportion that is allocated via the research council's specific grants.

The first step could be an increase in the activities which research council grants are supposed to cover. Instead of meeting simply the incremental cost of research projects, they should be adjusted to include both an adequate allowance for full university overhead costs and that part of the salary of academic staff which corresponds to the time they will be spending on the research project. In addition, on a formula that needs to be worked out in detail, some supplement should be made to the salaries of academic staff who choose to work on university departmental research rather than seek out personal consultancy work outside the university.

Research contracts for government departments and industry should include not only full overheads and the relevant contribution to the time they will be spending on the research project, but also a recommended in the Rothschild report a few years ago, a significant component to support the fundamental research upon which most applied research ultimately depends.

Obviously any such move would need to recognize the same disciplines are more capital intensive in research than others. Also, there would need to be substantial increases in the resources available for personal research in arts and humanities, the growing activity of the British Academy in this area is to be welcomed.

It is not possible to state a priori what would be the optimal distribution of university income. If the time which university staff claim to spend on research corresponds to the actual allocation of resources this would suggest that about 25 per cent of university general income ought to be derived from the research councils.

At least two political advantages could well derive from such a change. In the first place if the proportion of university recurrent income which derived from block grant were reduced from 80 per cent to 50-60 per cent, expenditure at 40-50 per cent would be spread over a longer period, thus reducing the institutions' output of teaching and research it would be far easier for governments to accept the return of a system of quinquennial grants fixed in real terms. The second probable political advantage is that in a time of stagnant real wages it will probably be easier to justify additional funds for research than for teaching.

Such a shift would also have implications for the internal allocation of resources. As the proportion of university recurrent income which derived from block grant were reduced from 80 per cent to 50-60 per cent, expenditure at 40-50 per cent would be spread over a longer period, thus reducing the institutions' output of teaching and research it would be far easier for governments to accept the return of a system of quinquennial grants fixed in real terms. The second probable political advantage is that in a time of stagnant real wages it will probably be easier to justify additional funds for research than for teaching.

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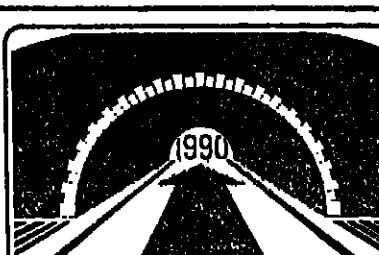
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Gareth Williams, left, argues that university financing ought to be tied more to teaching and research than is now the case



It is little doubt that in the long run it will be politically possible by this means to channel more resources to overseas students in Britain than through general subsidy to universities. This applies whether the aid is seen cynically as an extension of British foreign policy or idealistically as a way of helping the third world.

The decision to sidestep this issue by raising the level of fees for all students was a clever political move and deserves acknowledgement as such. However, it has tended to divert the debate away from the general issue of the desirability of student fees as a significant source of finance for higher education.

In 1975/76 80 per cent of university income for recurrent expenditure came from the University Grants Committee, 5 per cent came from student fees and associated support costs, 6 per cent came from research councils, 5 per cent came from other grants and contracts and 3 per cent came from miscellaneous sources such as gifts and endowments. In 1961/62 when recurrent grants from the UGC represented less than 70 per cent of income and less 9 per cent, the Robbins committee expressed concern that the dominance of one source of finance might be a cause of some concern.

However sympathetically the UGC performed its tasks and however hard it fought for university interests in the councils of government, there are dangers in almost total reliance on one source of income. Indeed, the constitution of the UGC itself is such that it offers the universities virtually no protection against a government that wishes to bring one or all of them to heel. It is conventional practice alone which protects the autonomy of British universities. Even though the majority of fees and grants come ultimately from the public purse, Robbins thought it "a source of strength that public finance should come from more than one channel".

The committee went on to recommend specially that tuition fees should be revised so that in future they would be at least 20 per cent of current institutional expenditure". The Robbins report did not explicitly use the argument that a substantial fee income would be likely

ties more hazardous. No university will be quite sure that it will have enough students arriving in October to meet all its commitments during the current academic year.

The problems this causes should not be overstated. It is only first-year students and newly-registered students who are affected. There are any real difficulties of prediction—about 30 per cent of students at present. Even if an institution over-estimated the number of new October enrolments, by more than 10 per cent (and to be out by more than this would be gross carelessness), its income shortfall would be less than 1 per cent (0.10 by 0.20 by 0.30). This would be inconvenient but would not result in immediate bankruptcy and the following year the university would have the choice of reducing its budget or increasing its student intake. Universities will be under pressure to react to changing student demand but will not be in any serious danger of sudden bankruptcy.

Of course, the financial difficulties for some self-financing home and overseas students which accompanied the introduction of higher levels of fees cannot be ignored. A lot of difficulties would have been avoided at very little cost to public funds if the higher level of fees had been introduced for newly-registered students only.

Student fees are related to a university's teaching activities. The other main activity is research, and income from research grants and contracts is the other major source of income. However, the way most research income is treated at present is that the fixed costs are met out of general university income (ie UGC funds) and the research grants cover only the marginal costs. No penalty is thus incurred by the university or department that is not active in research. Indeed for tenured staff with little prospect of further promotion there may be some attractions in not seeking outside research funds and instead having increased leisure or more time for consultancy activities.

Just as student fees have been increased with probable long run beneficial effects on the higher education system as a whole, so there

is a good case for increasing the proportion that is allocated via the research council's specific grants.

Such a shift would also have implications for the internal allocation of resources. As the proportion of university recurrent income which derived from block grant were reduced from 80 per cent to 50-60 per cent, expenditure at 40-50 per cent would be spread over a longer period, thus reducing the institutions' output of teaching and research it would be far easier for governments to accept the return of a system of quinquennial grants fixed in real terms. The second probable political advantage is that in a time of stagnant real wages it will probably be easier to justify additional funds for research than for teaching.

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How Liverpool's citizens created a university

Liverpool in 1878 was one of the three great provincial metropolises of the Industrial Revolution in England. It was a port of 1.5 million people, a city of 700,000, a high proportion of the poorest in the country; it had survived the great waves of immigration of the post-war years, it had become a world centre of shipping and mercantile services and many miles of docks were backed by a city area where marine insurance and financing, the politics and business of ships and shipping lines, merchandising and commerce had a fitting architectural setting, a setting which has survived and is more visible today (though in decline) than comparable settings in the other great cities.

Commerce was more distinguished than industry: the city's ruling elite thought well of themselves. "Manchester men and Liverpool gentlemen", as the saying was. Yet Liverpool was distinguished from other great centres of population in one curious respect—it had no regular established provision for higher education, either in the industrial sciences or in liberal studies. It had a medical school, but no college of higher education, still less a university.

In fact, some provision existed at that time, and had existed earlier in the century, for higher education in Liverpool; it had not extended to the establishment of an "endowed college". The first step may reasonably be set with the founding of the Royal Institution in 1813. This was the product of the liberal and literary circles which surrounded William Roscoe, a civil servant in the late 18th century and an ardent abolitionist against the slave trade.

The Royal Institution, which soon acquired its own building (in use today as the teaching centre of the University of Liverpool Institute of Extension Studies), was conceived as a centre of liberal studies, its objective being "the promotion of literature, science and the arts". Seven professors were appointed, and a programme of lectures began, which continued until the 1840s; these lectures included instruction in medical subjects, and out of them the first medical school was established in 1834.

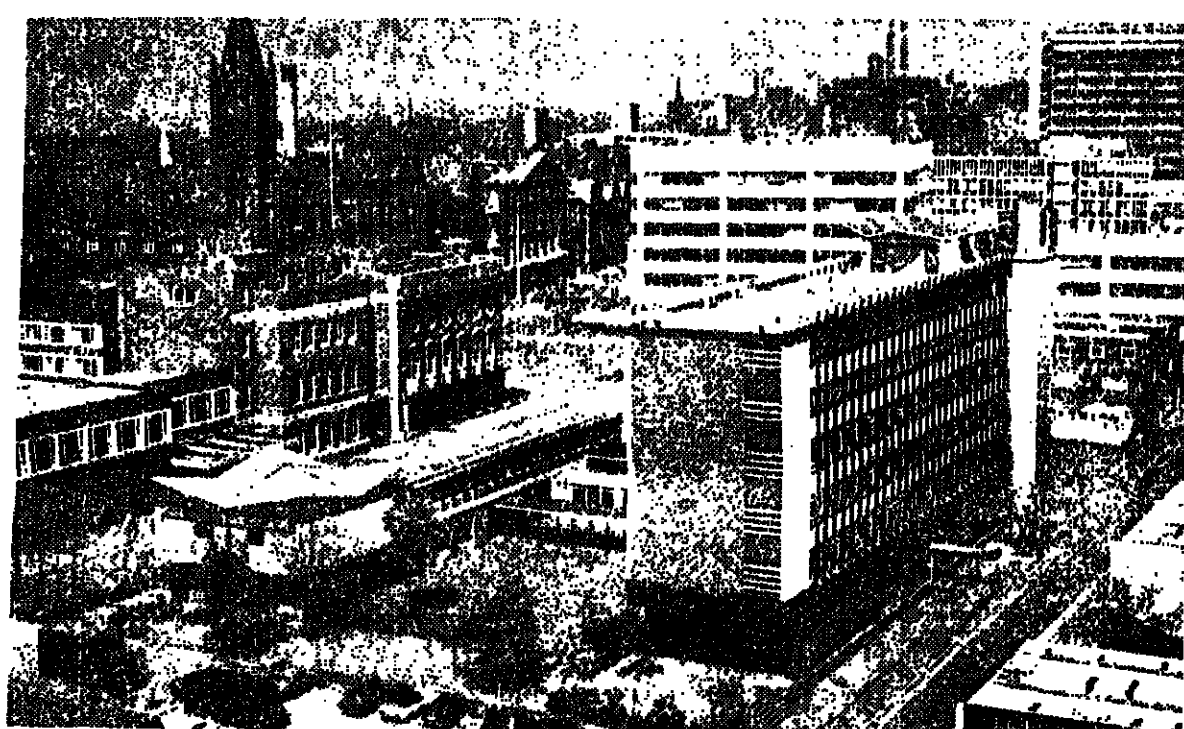
However, viewed in the light of a permanently endowed organization teaching to university standard, and as a means whereby a significant proportion of Liverpool young people could obtain degrees, the Royal Institution was a failure. Despite its gentlemanly quarters and its local prestige, it demonstrated that hard lesson of educational experience in the Victorian period: no regular teaching institution could be maintained in what was then a city of finance was primarily derived from students' fees. Regular teaching during the day ceased, and for nearly 20 years Liverpool was entirely without higher education other than medical.

In 1856, however, something more serious was started. This was Queen's College, an offshoot of the very successful educational ventures of the Liverpool Mechanic's Institute (renamed the Liverpool Institute). Affiliated to London University (although this affiliation gave it no exclusive rights), it appointed 11 professors and began an ambitious programme of lectures in both arts and sciences. These lectures continued until 1881, but rapidly became clear that there were limitations in what could be afforded to take full-time courses during the day, at least in the subjects offered.

Altogether in the period 1856 to 1881 only nine students who followed the lecture courses managed to achieve London external degrees. One of them was James A. Hop, later to be a figure of considerable importance in the educational life of Liverpool.

The School of Science, which appeared in 1861, was the beneficiary of grants from the Department of Science and Art in London, might therefore be regarded as the result, locally, of competing movements in technical and higher education nationally. It did not succeed in making headway against Queen's College until about 1875, by which time some radical changes had occurred in the atmosphere and aims of educational associations.

Neither Queen's College nor the School of Science ever had their own buildings. Queen's College used the Institute schools, and the School of Science used almost every possible public building, including the Royal Institution and the (by then



Top, a view of the Liverpool University precinct with the maths and oceanography building on the right and the students' union to the left. Below, an engraving of the Royal Institution in the nineteenth century.

One hundred years ago a decisive act by the citizens of Liverpool marked the first step in the evolution of the University of Liverpool. Michael Cook writes.

Last week was the centenary of the meeting which resulted in the creation of University College, Liverpool, which eventually became a full university in 1903.



available) public library. Perhaps this accounts for some of its success as an evening centre. It even became the main room from which the Technical College grew, now part of the Liverpool Polytechnic.

The changing atmosphere in the middle 1870s may have been the result of quite deeply rooted changes in public attitudes. Ostensibly the agents of this change were the combination of new voluntary bodies with the movement associated with James Stuart and the Cambridge University Extension Lectures.

The most important of the new voluntary bodies were the associations for the higher education of women. They became important pressure groups locally from 1867 onwards, and their influence was one of the main changes in public opinion which had taken place. Changes that were not linked to traditional local parties or groupings. The North of England Council for the Higher Education of Women, whose chairman was Josephine Butler and whose secretary was Mrs. Jamina Clough (the founder of Newnham College, Cambridge), was particularly influential in setting up lecture courses and making the necessary financial and administrative arrangements, until these were taken up by the Association for the Promotion of Higher Education in Liverpool in 1874.

The Cambridge Lecture movement provided these bodies with an immediate goal and a practical structure for achieving it. During the years 1874-1880 more than 40

lecture courses were held, financed by the association and staffed by Cambridge lecturers, which covered a great variety of subjects, including written work, the answering of questions and the issue of certificates to successful students, and were not intended as merely recreational. Subjects were usually literary or historical, but included quite a large element of science; this combination was to be significant after the appearance of the University College all this foreshadowed.

University College, Liverpool, actually resulted from a Town's Meeting held on May 24, 1878; this meeting marks the point at which the present-day university began to take administrative shape. It did not receive its Charter until 1881, nor begin teaching until the year after that. But the archives of the university begin on May 24, 1878, with the formal record of the Town's Meeting and the committee that it established. This committee has some continuity with the council of the later University College.

Active campaigners for the college included many of the leading figures of the voluntary educational life of Liverpool, and now a remarkable merging of distinct parties could be seen. Charles Beard, minister of the principal Unitarian congregation, in Renshaw Street, was a most powerful influence. Robert Gladstone represented the Anglican establishment, but of the laymen, the most prominent tended

to come from the Renshaw Street Chapel, as William Rathbone and George Holt did. Under the guidance and persuasion of men like these, something like £130,000 was contributed in the four years 1878-1882.

Once practical proposals had been made and accepted, and a certain amount of idealism had been spread about by the main proponents, there was a general agreement in the city that the project should be supported.

The corporation donated their recently disused lunatic asylum and the substantial grounds around it, and it was in this, wretched in the smoke from the nearby railway cutting, that the college opened for business. It was immediately caught up in the wider movement for development of provincial universities. By 1884, strengthened in numbers by the accession of a new benefactor, the college was a new benefactor, the college was a new benefactor, the college was a new benefactor.

A new building was also required. This was put up in 1892 by Alfred Waterhouse, a leading Gothicist, and the building, disfigured by subsequent generations, was much admired today, but entirely suitable as an expression of the functions and ideals of a provincial university college.

The finished quadrangle, with the Victoria building on one side and laboratories by the main architect on the others, is celebrated in a fine

engraving published in *The Builder* in 1896, in which the whole concept of a local university college is visually portrayed, a concept in which Liverpool stayed loyal and devoted to the ideals of liberal education, where the humanities, the arts and crafts, but including the main branches of science and medicine.

A civic university acquires its distinctive character from its environment, from its own staff, its students and from its backers in the community—particularly those who control and fund it. The character of University College Liverpool, was therefore shaped by the personalities and events combined in its formation. The principles were unequivocal. The start: it was to be open to women as well as to men (though women had to fight restrictions in the faculty of medicine for some years yet); it was to be non-sectarian.

For a generation before its high-spirited had been paid its cause of scientific education, when the college opened, apart from some necessary additions to the medical curriculum, the weight of the teaching seemed to go into the humanities. Of the original seven chairs, only three were a science.

Development of the sciences proceeded rapidly, and included applied sciences appropriate to the region: chemistry, engineering and marine biology. There were also engineering applied subjects on the arts side: Liverpool quickly developed several local schools or institutes such as archaeology, local history, applied arts and crafts (the art of architecture) and the day to day life of the city.

The original teaching team was brilliant one. The first principal, Gerald Kendall, also Professor of Classics, was perhaps outshone by his colleague, Sir Oliver Lodge, Professor of Physics, who was the most famous, but was closely approached by other members, particularly Sir William Hamlyn (natural history), A. C. Bradie (chemistry), and Sir John Lubbock (biology). These men, who were appointed on a part-time basis, and the college also had lecturers in German and Italian (which may be regarded as further examples of applied subjects on the arts side), the latter being Eugene Lott, who was also registrar and librarian. The staff of his post was reduced in the first year by there being virtually no books.

The founding benefactors had proved enthusiastic participants. They no less enthusiastically accepted governance and control over their new creation. Forty life governors including a president and treasurer were named in the charter of 1881; the council, governing executive in administrative matters, met regularly in the city offices.

It is not surprising, therefore, that the academic body sought to minimize its influence. An internal battle fought and won by the academic party has, interestingly, left its mark on the standard model for university government: the faculty, an incorporation of an allied group of departments, a deliberative and administrative body, intermediate between senate and departments. Universal today, it was introduced for the first time by the faculty of arts at Liverpool in 1896.

University College, Liverpool, became a full university in 1903. This month it is celebrating the centenary of the decisive act by the citizens of Liverpool which set up the college. This decision, made by the citizens alone without any external support, brought Liverpool once more into the full community of the great cities of Europe, and established a university community which has ever since been able to display individuality and vitality.

The author is university architect in writing this prehistory he has been able to consult the first chapters of a history of the University of Liverpool which is currently being written by eminent professor Thomas Kelly, who held the chair of adult education in Liverpool from 1967 to 1975. Professor Kelly's book will be published in time for the centenary in 1981 of the establishment of a University College.

The case for Welsh studies in a European context

There was a time when claims for the Welsh language and for Welsh studies generally in higher education in Wales were made, and—quite often met, in terms of a concession to local conditions—within the overall pattern of the education system operating in England and Wales.

This article, however, frames a regional perspective and asks what the relationship between the University of Wales and the life and culture of its own region of Europe.

No sooner does one mention European regions than one finds oneself talking about unequal development, about regional inequalities have been, first, a centralized nation state which led to the tension between core and periphery, and secondly, the centralization of the nation state.

Wales offers a rather neat example of the effects of both processes: a rural peripheral area with a residual, unabsorbed, traditional language and culture, and an industrial area, anglicized, yet not wholly absorbed into the modern industrial, social and cultural life of the centre.

This is not the place to go into detail about the ways in which the effects of centralized nation-states put certain peoples at a relative disadvantage not only economically but culturally and linguistically. Suffice it to say that the main nation states of Western Europe strove to establish monolingualism within their boundaries, and that state education served this purpose.

Languages, cultures and value-systems which did not have the backing of a nation-state were characterized as archaic, backward, unfit for modern life, though sometimes also picturesque. The nineteenth-century university presented itself as the pinnacle of enlightenment and knowledge within the orbit of one or other of these nation-states. These favoured languages and cultures, these perceived themselves as the universal culture, with the university as torch-bearer.

One can still, from time to time, hear the long withdrawing roar of the nineteenth century when a request for more Welsh-medium teaching provokes the response "but I thought a university was supposed to be universal"—as if universality had an English face. Praise or blame are inappropriate for the process I am describing. The nineteenth-century ideal of universal culture was not only projected by the main nation-states, it was readily accepted by their client peoples. Few Welshmen objected when the University of Wales opened its doors to teach every subject (including, in the early days, Welsh) through the medium of English.

The way they saw education was that it offered them access to the world as defined by the system. It was the same habit of mind that characterized Matthew Arnold, an admirer of Celtic literature, (in 1869) at the same time to look for the rapid demise of Welsh as a progressive HMI inspector who spoke it.

The whole way of looking at culture and the university has (in some time been losing its legitimacy) and co-opting force. For a long time, the university has been transplanted to the periphery and has been the same kind of dominant cultural life that it was inside the privileged cultures.

But at the same time the state has taken over the university. The people who did it at the end of the last century just as the dream of the great city was made way for the problem of the metropolitan area. The idea of the university has been inside the privileged cultures.

ferent direction. The disadvantaged regions have now become a European problem, which is why the dialogue between them and the European institutions is continuing and lively. Redress of inequalities, regional development, is increasingly thought of in constitutional and cultural terms as well as in economic terms.

Can these things be separated? Can you have thriving regions in Europe without local control through elected assemblies, and without the articulation of the local cultures through such necessary institutions as broadcasting and universities that use the local language and are closely in touch with its life?

It is, I suppose, just possible to envisage the nightmarish of a European monoculture based on a single language and converging on Brussels. And if that were to come about, then education and the university would once more have the function of maximizing access to authority, but such a prospect is fortunately politically impossible and the alternative model for Europe is pluralist.

In a pluralist Europe of regions one would expect the university to have a strong connexion with its own region, not only culturally but economically, and to use its international and multilateral contacts so as to bring to its own community that knowledge and stimulus which its particular circumstances required.

Europe of Europe is, in fact, to initiate a study of how the links between universities and their regions may be strengthened, following the recent Bordeaux declaration by the convention of the local and regional authorities of Europe.

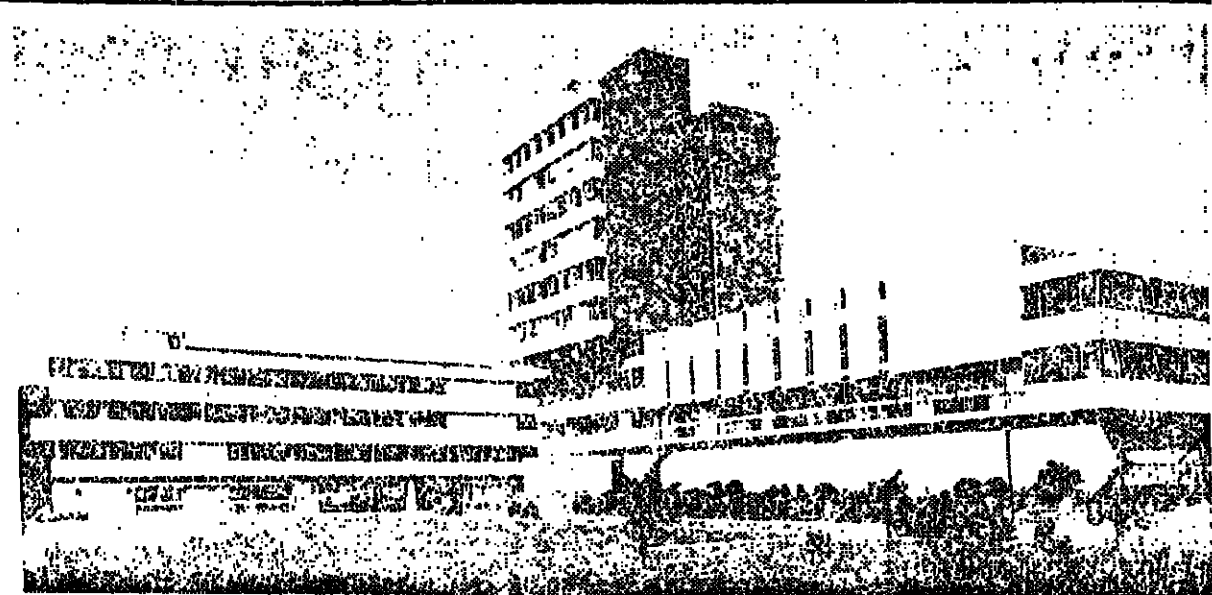


As one might expect, when we come to look at this question in terms of a particular case—the University of Wales—we find things a lot more complicated. First there is the linguistic fracture of the Welsh community. Only 20 per cent of the Welsh population today speak the language, but much of the distinctive cultural and intellectual tradition of the Welsh people is attached to that language.

Secondly, there is the difficulty that the community and culture of the English-speaking Welsh is not always clearly definable. It has often been much studied. So that when one moves out of the Welsh language, the Welsh dimension is not always obvious, although, as I shall argue, it is in many areas becoming more apparent.

Thirdly, there is the problem of the staff and students of the University of Wales come from outside Wales. This cannot help being a problem, not at the level of individuals but of institutions. To a very large extent, universities set their own goals and priorities within the community at large.

Head-on collisions are usually avoided because the discussion of priorities within the university is a matter for discussion of priorities within the community at large. But this is often not the case within the University of Wales because of its composition. This



University of Wales, Aberystwyth: making efforts to attract Welsh-speaking students.

gap can only become greater if the promised Welsh Assembly takes responsibility for the whole of higher education except the university.

The student composition of the colleges of the University of Wales

ing. In competition no college can attract enough of them to make a full range of courses even in, say, two faculties, viable.

UCMC—the devolved National Union of Students in Wales—seems as unwilling as the college authorities

College/Institution	Percentage from Wales 1970/71	1975/76
Aberystwyth	40.0	38.5
Bangor	25.7	21.8
Cardiff	40.0	47.6
Swansea	38.4	34.0
Welsh National School of Medicine	61.7	55.3
St David's College, Lampeter	23.5	26.2
Institute of Science and Technology	37.4	28.7
All students from Wales	37.1	33.5

Source: Statistics of Education in Wales, 1977 (HMSO).

(I know of no figures for staff) is worth setting out, because it has a bearing on the first of our problems—how to provide for the Welsh-speaking community.

I estimate that throughout the University of Wales there are at any one time not more than 1,000 Welsh-speaking students—which does not mean to say they are following Welsh-medium courses. Most of these are at Bangor and Aberystwyth, with a scattering through the other colleges.

Although Aberystwyth has had its conflicts in the past, currently Lampeter and, above all, Bangor (which seems to be becoming the Welsh Louvain) offer the sharpest linguistic skirmishes.

It is worth noting that both the colleges, regardless of the numbers of Welsh-speakers, have unduly small percentages of students from Wales and are situated in strongly Welsh-speaking hinterlands.

Welsh students complaining about the insufficiency of Welsh-medium teaching have recently been reinforced by resentment at the social impact of largely English institutions in large Welsh-speaking areas. This has reached the point where the University College Court at Bangor recently only narrowly defeated a motion calling for the cutting of student admissions by 500—an unheard-of proposal in the British context.

Welsh-medium teaching is either official (with appointments made for that purpose) or unofficial and therefore not measurable. Official teaching is divided between Bangor and Aberystwyth, who have access to special funds for introducing a small number of Welsh-medium posts.

Although it was intended to avoid duplication, some in fact exists. The colleges, try to build up to a position where students can take full courses in Welsh. But this is seldom possible, since the Welsh courses are usually required to be parallel versions of the English courses and therefore require appointments in all areas of the subject. There is no doubt that there has been a slow advance, but the situation is deeply unsatisfactory in all except a handful of subjects, and leads to a sense of affront and alienation from the university in many of the best Welsh students.

Both Aberystwyth and Bangor are now making strenuous efforts to attract more Welsh students. But while the level of expectation for courses in Welsh is rising, as perhaps also the numbers of Welsh-speaking sixth-formers academically prepared by their bilingual schooling to read degree in Welsh, the total pool of Welsh-speakers is small and still declining.

ties to recognize this. Its current policy is to demand more and more Welsh-medium teaching in all the colleges of the University of Wales, which seems calculated to ensure a future of maximum friction with the prospect of a fully Welsh higher education being available anywhere.

Moreover, this policy, if effective, would reserve teaching posts for Welsh-speakers everywhere, only in order to offer them for the teaching of largely English students.

The opportunity has been missed, more than once, to establish a single Welsh-medium college, perhaps a semi-independent institution like an Oxbridge college in an existing university centre. If the binary system could be breached to permit college of education students and courses in the same institution, then one could look forward to a student body of 1,000 or more, and a sizable staff devoting their own courses and responding to the needs of the Welsh-speaking community.

The university, however, seems to have set its face against any movement in this direction, and when it comes—as a Welsh-medium college surely must do—it is more likely perhaps to come in the public sector.

Until the language question can be properly solved, language polarization will tend to bedevil the successful development of Welsh studies through the medium of English. What is wrong with teaching Welsh history in English?

Nothing at all, unless the appointment made to do so ensures that Welsh-speaking students in a mixed-language institution can only hear certain lectures on Welsh history in English.

Leaving that aside, one can say that certain subjects have, in certain colleges, kept a very special relationship with the community of Wales—education, agriculture, theology and religious studies, geography. Other subjects have emerged as having a special Welsh dimension in recent years.

Welsh politics now offer a separate sphere of research and a separate set of comparisons (Scotland, Brittany, etc.); the activity of the Sociology of Wales Group suggests that questions which are non-English if not necessarily limited to Wales are now getting considerable attention following work by Americans (especially Hechter) and the development of nationalist politics in Wales. The Welsh economy has been the subject of some research and the Welsh Office is a source of a certain amount of research money.

The social and industrial history of South Wales has been drawn into a continuing argument about

the relationship of socialism to nationalism. People tend to enter this debate from two ends: either they are steeped in Welsh literature and relatively ignorant of the history of industrial South Wales, or else they are well versed in the latter and in Marxism, but unequipped to deal with the Welsh religious and cultural traditions which are important strands in that history. The dialogue can only be mutually enlightening.

The shift in approaches to Anglo-Welsh literature can be usually measured by comparing lectures given in 1957 and 1978 by Professor Gwyn Jones. In the earlier lectures he staked a claim for Anglo-Welsh literature as a strong regional literature, but today he states the right of every Welsh person, whatever his language, to have access to the national literature of Wales, whether it is in Welsh or English.

The implications of this, I think, are that there is an area of study, not just a contributory stream in English literature, and that it should be prepared to use translations from the Welsh.

There are therefore plenty of signs of life in the area of Welsh studies, but without undertaking a survey it is difficult to measure how far these new interests enter into undergraduate courses. The problem of displacement is a real one when introducing any new material into an established pattern of courses, and one often thinks that a more flexible inter-departmental system of choices would allow these new and legitimate concerns to surface more quickly.

Finally, it is interesting that in almost all the areas I have noted, a more specifically Welsh focus also turns out to be a comparative



focus. Anglo-Welsh literature soon invites comparison with Anglo-Irish, if not West Indian and West African; Hechter involves the sociologists in colonial models, while socialism and nationalism take one very quickly to Gramsci.

The picture that emerges is almost always comparative. Places like Wales have come into the game too late to try to reconstruct a universal culture in their own image. This should mean that there will always be room, and a special welcome in the University of Wales for those who bring with them comparative insights based on experience elsewhere.

Ned Thomas

The author is lecturer in the department of English Language and Literature, University College of Wales, Aberystwyth.

BOOKS

Interpreter of industrial society

Howard Newby

Noticeboard is compiled
by Patricia Santinelli
and Mila Gold

Appointments vacant
Universities
Fellowships & Studentships
Polytechnics
Technical Colleges
Colleges and Institutes of
Technology
Colleges of Education
Colleges of Further Education

Colleges and Institutes of
Higher Education
Colleges and Departments
of Art
Research Posts
Administration
Overseas
Adult Education
Librarians
General Vacancies

Official Appointments
Appointments wanted
Other classifications
Awards
Announcements
Exhibitions
Personal
Courses
Holidays and Accommodation

Appointments

Harry Smith, at present professor of plant physiology in the University of Nottingham has been appointed to the chair of botany at Leicester University, and will be installed by the late Professor E. L. Street.

John F. Dewey of the State University of New York at Albany has been appointed to the chair of botany at Leicester University, previously held by the late Professor Peter H. Ravn.

Dr G. B. Pegrum, reader in human anatomy at Charing Cross Hospital Medical School has been appointed to the chair of anatomy at Westminster Medical School.

R. A. Plunker, holder of the chair of zoology at the University of London, has been appointed to the new chair of social work studies at the London School of Economics and Political Science.

Dr J. C. Riley-Smith, presently the librarian of Queens's College, Cambridge, has been appointed to the chair of history at Royal Holloway College.

Universities
Lancaster
Lecturers (physiology): Dr W. Clifford (physiology); Dr A. Gopdard (physiology); Dr J. H. Simpson (physiology); Dr R. Thomas (physiology); Dr Bryna Thomas (Physiol. Lect.); Dr S. Thakuravara (physiology); Dr S. C. Ellis (physiology); Dr Norman H. Jarvis (physiology); Dr M. Hannan (physiology); Dr R. Gurnea (physiology); Dr R. Roberts.

Leeds
Lecturers: P. J. Beach (linguistics and psychology); A. Harrison (linguistics); Lecturers: A. Aldridge-Smith (psychiatry); J. Aldridge-Smith (psychiatry); J. Morris (biology); J. Lauder (pathology); W. Lloyd (textile industries); J. A. Morris (textile industries); J. R. Gurnea (physiology); A. Walker (physiology).

physics: A. J. Bradbury (child dental
medicine); M. S. Onor (restorative den-
tistry); S. Chew; P. F. Hammond and
D. Lindsay (clinical English); R. G.
Rudway (social, physical and nutri-
tional science); J. Winyard (social policy
administration). Lecturers (three-ter-
m appointments): C. J. Colbourne
(paediatric dentistry); J. D. Lloyd
(dentistry); G. A. Loidl (school of
dentistry). Lecturers (reappointments):
January 1. L. Jarvis and R. A. Knight
(paediatric dentistry); A. Austen
(management studies). Senior assis-
tants: D. F. Birchall.

Oxford
Head of the department of humanities:
Dr R. G. Murray.

Surrey
Head of the department: Professor
W. E. Williams (mathematics). Visi-
ting professors: Dr J. E. Hughes and
Dr I. Jenkins (metallurgy and materials
science); Dr J. T. A. Cowan (chem-
istry); Dr P. G. Williams (chemistry);
Professor Captain J. Ern-
sting (applied physics in the depart-
ment of human biology and health).
Research fellow: Dr W. M. Meadows (Hug-
o and international studies).

R. E. Ff. Bywater (electronic and electrical engineering); Senior lecturer
P. R. Knowles and D. B. Middleton (hotel, catering and tourism management); G. M. Anderson (logistics management) and International studies; C. A. Burt (management studies); T. C. Davies (hotel, catering and tourism management); Lecturers:
M. H. Clarke (health care), C. R. Young (microbiology); D. A. Treget (hotel, catering and tourism management)
G. G. C. Jones (health care); Visiting lecturer: D. M. Stevenson (hotel, catering and tourism management).

General

Jean Fells, professor of new communication at the University of Newcastle upon Tyne and member of the Society for Science Research Council Research Fellowships, was elected president of the Institute of Fuel.

Phil Burke, professor of mathematics at the University of Belfast, was elected as a fellow of the Royal Society.

“The forthcoming conference on the role of the University in the community”

“Conference Initiatives and Local Authorities”, a one day conference organized by the Regional Studies Association, is to be held at Birmingham University's Mulholland Tower on June 8. The Conference will, explore the problems and initiatives at the local level, the alternative approaches and what the next steps forward should be. The Executive Committee for the Conference is: Chairman, Dr. J. R. H. Chandos Place, London WC2.


“The workshop way” is the theme of the third national working conference to be convened by the Training Committee for the Training of University Teachers at the University of Stirling from June 8-11. Further information from Dr. R. K. Matheson, SCUTU, The Registry, University of East Anglia, Norwich NR9 7TJ.

Saturday June 3

[illegible][illegible]

12.10	Mechanics and applied calculus	
12.10	Mathematics and conservation laws	
12.10	Mathematics and probability	
12.10	Mathematics and statistics	
12.10	Mathematics and topology	
12.10	Mathematics and vector analysis	
12.10	Mathematics and variational calculus	
12.10	Mathematics and wave theory	
12.10	Mathematics and geometry	
12.10	Mathematics and physics	
12.10	Mathematics and astronomy	
12.10	Mathematics and biology	
12.10	Mathematics and chemistry	
12.10	Mathematics and earth sciences	
12.10	Mathematics and engineering	
12.10	Mathematics and medicine	
12.10	Mathematics and social sciences	
12.10	Mathematics and history	
12.10	Mathematics and philosophy	
12.10	Mathematics and art	
12.10	Mathematics and literature	
12.10	Mathematics and music	
12.10	Mathematics and sports	
12.10	Mathematics and games	
12.10	Mathematics and puzzles	
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12.10	Mathematics and timetables	
12.10	Mathematics and calendars	
12.10	Mathematics and clocks	
12.10	Mathematics and watches	
12.10	Mathematics and timepieces	
12.10	Mathematics and chronometers	
12.10	Mathematics and horoscopes	
12.10	Mathematics and astrology	
12.10	Mathematics and astronomy	
12.10	Mathematics and cosmology	
12.10	Mathematics and physics	
12.10	Mathematics and chemistry	
12.10	Mathematics and biology	
12.10	Mathematics and earth sciences	
12.10	Mathematics and engineering	
12.10	Mathematics and medicine	
12.10	Mathematics and social sciences	
12.10	Mathematics and history	
12.10	Mathematics and philosophy	
12.10	Mathematics and art	
12.10	Mathematics and literature	
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8.20	Schelling and society: The Case of the German Romanticism
8.40	Social work community work art theory: introduction to Liverpool OL209; prog 16;
8.75	Homonarrativity and postcolonial biology: Diversity, Difference, Transsexuality HAWKINS; prog 16;
8.95	The distributed cognition in psychology: NAGATSUMI (1994); prog 16;
9.15	Software development: New Research Software? "MAGE"; prog 16;
9.45	Under the influence: The American and British and Stalin (1931); prog 16;
10.15	Art, Anatomy cinema: Susan FPH, Wendy Cresswell; prog 16;
10.30	Patrials (A191); prog 16;
Alternative broadcasts for North Scottish area:	
8.20	"Personality and learning: New York University"
9.00-9.20	"Neuroscience and Information": Angus McIntyre; prog 16;
9.20-9.40	Venus (A233); prog 16; socialist The Artist (1950's); prog 16;
Wednesday June 7	
BBC1	
8.40	Fundamentals of human geography: Rural Land Use: Dairy Farming and Agriculture
7.05	Human mathematics: Longus at the University of London
7.35	Technology for industrial Structure and Materials (PDR); prog 02a
BBC2	
8.40	Materials under stress: Sure Offshore 1976; prog 16;
9.05	Chemical ecology: Molecular Biology chemistry (1986) Molecular biology (1986)

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AUSTRALIA

Applications are invited for the following posts, for which applications close on the dates shown:—**SALARIES** (unless otherwise stated) are as follows:—
 Lecturer SA20, \$15,131; Senior Lecturer SA29, \$19,452-£22,432; Lecturer SA18, \$8,645-£10,383.
 Further details, conditions of appointment for each post, method of application and application forms, where applicable, may be obtained from the Director of Higher Education Universities (Apts.), 38 Gordon Square, London WC1H 0PP.

**Monash University,
 Melbourne**
**CHAIR OF
 ACCOUNTING AND
 FINANCE**
 Applicants should have research and teaching interests preferably in financial accounting but

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Sciences and
October, 1978, or such later date as may be determined by the Board of Trustees.
Partnerships, normal tenure
Studies (Social Studies)
School of English and American Studies
in Sociology. The successful candidate is expected to teach and develop courses in the history of American cities and aspects of labor and business organization. The candidate should have a strong background in structure, with reference to other social and biological theory.
Temporary European Studies
School of European Studies.
The successful candidate should have a knowledge of modern European politics and society, and should have a special interest in contemporary political analysis.
Studies of African and Asian Studies.
School of African and Asian Studies.
of Art
School of European Studies.
The successful candidate should have a special interest in the history of art and architecture.

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13.88 Mathematics foundation course
Why "a"? (b1201; prog.18;

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Sunday June 4

SEC 1

7:15 Social psychology: You Don't Fool Me (1964) (prod 6)

7:40 Chemistry: The chemistry of carbon compounds: conjugated systems and aromatic compounds (1964) (prod 6)

8:05 Systems behaviour: A Local Government System (1961) (prod 7)

SEC 2

7:40 Making sense of society: Brick Lane (1961) (prod 18)

8:05 Science foundations: atoms & molecules (1961) (prod 18)

8:30 Mathematics: foundation course: sets (1961) (prod 18)

9:05 Man-made futures: design and development (1961) (prod 18)

9:30 Systems management: Aids (1961) (prod 18)

10:05 Systems management: Role Playing (1961) (prod 18)

10:30 Systems management: electrical and electronic measurement and power (1961) (prod 18)

10:55 Topics in pure mathematics: Turning points (1961) (prod 18)

11:30 Statistical aspects: Public opinion (1961) (prod 18)

11:55 Language and learning: Talking (1961) (prod 18)

12:30 Open forum—22 Minute Best Use of Time (1961) (prod 18)

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	1948-1949; The American Negro College
11.28	Industrial Arts (A309); page 11
10.16	Industrial Arts (A309); page 11 DPSI; page 7 The Youth Movement School (K20) The Youth Movement School (K20)
RADIO 3 (VHR)	
6.00	People and work; Work Meeting Culture and Consciousness (E638)
6.30	Industrial relations; Information Technology (G43) and the Twentieth century poetry; "Pursue"
7.46	Urban development; Political Bar Historical; Data and the Historical; The Geometries of Slavery
10.28	Decision making in Britain; Govt. Industry; Industrialization Nationalized Industries (J26)
10.46	Bureaucracy, Bending and the period S28; page 11
10.58	Public Policy; Community Announcement Ward rule; Analysis; Singularities Ward rule; Analysis; Singularities (N252); page 4)
Alternative broadcasts for north British area:	
24.00	Spectacles; Criminology; Bioethics

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the various degrees of interest in the subject or more at the following:

Management Accounting, Finance, Business Law, Tax, and Information Systems, and Economics. The emphasis would be placed on the more in-depth study of the more undergraduate and graduate level courses. The following are the faculty members leading to P.E.D. 11-12: M. Admin, and Ph.D.

30th June, 1978.

Orbith University
School of Humanities

The School of Humanities at Orbith University, Kentucky, is teaching in its fourth year, 1978, and is committed to the development of the student and to team teaching. The School's academic interests focus on the study of the human and social sciences, and the study of the discipline of literature, history, media studies, and the political and social sciences, and the study of the philosophy and Italian studies.

Qualifications: Normally a higher degree in the field of study.

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**ER/SENIOR
ER**

Dental Medicine

nt, located in the
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is undergraduate
teaching in oral
biology, oral
surgery, oral
biology and
reference will be
available. Have
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rience. Desires
istry, oral
biology or oral
dentistry. The
successful
will under-
stand and
proficiency, both
clinical and ba-
sical. Expe-
rience, expe-
rience. The
clinical teaching
program.

**ER/SENIOR
ER**

Dental Medicine

chool of European Studies.
should have an interest in both lan-
guage and must be able to contribute to
of Italian culture and history to the
of the school.

chool of African and Asian Studies.
should have a knowledge of African
have an interest in contemporary p

Temporary Lectureship
1 year
in Studies (History).

chool of English and American Studie
successful candidate will be expected to
American history and an introduc
to medieval and modern

appointees (currently under review and normally two years) and provide for education allowances and other passages. The Government (retirement pension scheme appointments on Permanent Staff. Appointees on contract terms receive gratuity (in the form of a lump sum) for the first year of the contract, rising to 25 per cent for each subsequent similar period of service. Inducement allowances for non-qualifying appointments are under a supplementary scheme. A mediation available at request. Family pay allowances, medical allowances, and other fringe benefits. Educational leave. Detailed appointments (copies) with curriculum vitae, training notes, and other relevant information. 20 June 1976 to the Rep. (Appointments) WU, London. Applicant should be the United Kingdom Ambassador, 100 Ebury Road, London, W.14. 8, Ebury Court Road, London, W.14. 8.

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BRITISH COUNCIL COURSE
New Approaches to Teacher Education
18 February - 2 March 1979

**in
London**

The Directors of Studies will be James F. Porter, Director of the Commonwealth Institute, and Peter Seaborne, Director of Continuing Education, Bournemouth College of Higher Education.

The course, which is residential, is designed for non-UK citizens who are teachers, educators, educational administrators, inspectors and others of senior standing involved in the practice of teacher education, the administration of schools and of higher education institutions, and the development of teachers in the public service.

Prospectuses and application forms may be obtained from local representatives of the British Council or from Courses Department, The British Council, 65, Davies Street, London W1V 2AA.

Application forms must be received in London by 15 October, 1978. Fee £245.

24.00	Phonetics and education: color phonemes in Russian (1958; prog 4)	5.00	Mass communication and social change: The Power of the Medium (1963; prog 8)
00.30	Language from 1860 to the pre- sent: The Russian language in the 1910-1920 Year of Calamity (1955; prog 1)	7.00	Religious quest: The Presence Among Yamani Jews (1968; prog 1)
04.30	Thought and reality: current theories in Wittgenstein's philosophy: Two Wittgensteins or One? (1972; prog 3)	7.30	Style and work: Embroidery (1967; prog 5)
		10.00	Reading theory and poetic art (1972; prog 1)

Tuesday June 4		17:30	Technology for Teachers: British Educational Research Association
		17:45	The Elements: Physics, poetry and the visual arts. Alan Watts and S. J. Liebowitz
RSC 1		18:10	Psychanalysis of human behaviour: a critical appraisal. J. H. Greenberg (1984, pp. 16)
0.40	The nineteenth-century novel and its female known. (1982, pp. 16)	18:25	Psychology of the doctor: Brickwork (1984, pp. 16)
7.00	Psychology of the doctor: Brickwork (1984, pp. 16)		
7.20	Psychology of the doctor: Brickwork (1984, pp. 16)		
7.30	Psychology of the doctor: Brickwork (1984, pp. 16)		
			RADIO 3 (VHF)
RSC 2		0.00	Thought and reality: context the relationship between the two. Wittenstein's or Otto (1984, pp. 16)
6.20	Psychological and statistical inference: a critical appraisal. J. H. Greenberg (1984, pp. 16)	0.20	Social psychology: Conversation (1984, pp. 16)
7.00	Psychological and statistical inference: a critical appraisal. J. H. Greenberg (1984, pp. 16)	0.40	Psychology and learning: Cognition (1984, pp. 16)
7.20	Psychological and statistical inference: a critical appraisal. J. H. Greenberg (1984, pp. 16)	0.60	Psychology and learning: Cognition (1984, pp. 16)
7.40	Psychological and statistical inference: a critical appraisal. J. H. Greenberg (1984, pp. 16)	0.80	Psychology and learning: Cognition (1984, pp. 16)
7.60	Psychological and statistical inference: a critical appraisal. J. H. Greenberg (1984, pp. 16)	1.00	Psychology and learning: Cognition (1984, pp. 16)
7.80	Psychological and statistical inference: a critical appraisal. J. H. Greenberg (1984, pp. 16)	1.20	Psychology and learning: Cognition (1984, pp. 16)
8.00	Psychological and statistical inference: a critical appraisal. J. H. Greenberg (1984, pp. 16)	1.40	Psychology and learning: Cognition (1984, pp. 16)
		1.60	Psychology and learning: Cognition (1984, pp. 16)
		1.80	Psychology and learning: Cognition (1984, pp. 16)
		2.00	Psychology and learning: Cognition (1984, pp. 16)
RADIO 3 (VHF)			
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1.80	Psychological and statistical inference: a critical appraisal. J. H. Greenberg (1984, pp. 16)		
2.00	Psychological and statistical inference: a critical appraisal. J. H. Greenberg (1984, pp. 16)		

STUDY AT HOME
for a London University External
DGREE
Witsey Hall, the only correspondence college with full courses for London University External BA degrees, provides individual instruction by highly qualified tutors.

success in 63% rate of over 50% is achieved in some degree subjects, including a high proportion of the upper and class honours awarded. Courses cover B.A. in One Subject, B.A. and B.Sc., Econ., L.L.B., B.Ed., Law, and University Diploma and Certificate in Career Education, College of Preceptors Diploma, as well as a range of professional, career and G.O.C. subjects.

Free prospectus from the Principal:
Dr A. Nelligan MBE, TD, MA, FRCGS
Dept BAI, Wolsey Hall
Oxford OX2 6PR
Telephones (0862) 542311
(Answerphone after 4.45 p.m.)

Wolsey Hall (EST. 1964)

Accredited C.A.C.I. Member A.C.C.

BEDFORD
CRANFIELD SCHOOL
OF MANAGEMENT

BIRMINGHAM
THE UNIVERSITY
FACULTY OF EDUCATION

31 July, 1978

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UNIVERSITY OF TUNIS

Applications are invited for the following posts in the Department of English Language and Literature:

LECTURER IN ENGLISH AND ASSISTANT LECTURER IN ENGLISH

Interviews will be held on the 27th and 28th October 1978. Candidates should send their curriculum vitae, together with three references, to the Secretary, Department of English Language and Literature, University of London, Senate House, Malet Street, London WC1E 7HU. The closing date for applications is 15th November 1978. Successful candidates will be offered a salary in the range £14,000 to £24,000 per annum, depending on qualifications and experience, plus a pension and other benefits. The University of London is an equal opportunities employer.

1) English Literature from the 17th century to the 19th century.
2) Applied Linguistics.

Qualifications: Ph.D. or good M.A. with three years university teaching experience.

Salary: According to salary scale of £14,000 to £24,000 p.a. and £4,800. Return postage and baggage allowed. Lecturer and family. Two year contract.

Interviews for short-listed candidates in London.

Applications to be sent to: The Tutorial Embroidery Centre, London, S.W.7.

Department of Economics is available from 1st October, 1979, or such other date as may be arranged. Applicants must have qualifications and research interests in Economic Theory or Applied Economics. An interest in Development Economics or

place, for an evening. This is not a requirement of the placement, which will depend on your experience and qualifications. It will be made at one of the first three points on the scale for twourers: \$3,600, \$3,696, \$4,190, (being) to \$7,500 who contribute a number of rights under the FBSU/USR. The appointment will be subject to a period of probation of up to three years in duration. Applications for assistance towards purchase of passage to Northern Ireland will be considered. Further applications are available from the Personnel Officer, The Queen's University of Belfast, 217, The Northern Ireland Closing date: 16th June 1978. Please quote ref: 78/THS.

... ..

DEPARTMENT OF
ECONOMICS AND SOCIAL
SCIENCE

1. **PROBATION** - 12 MONTHS
 2. **RESTITUTION** - \$1,000
 3. **COMMUNITY SERVICE** - 100 HOURS
 4. **COUPON** - 10 COUPONS
 5. **RESTITUTION** - \$1,000
 6. **COMMUNITY SERVICE** - 100 HOURS
 7. **COUPON** - 10 COUPONS
 8. **RESTITUTION** - \$1,000
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 99. **COMMUNITY SERVICE** - 100 HOURS
 100. **COUPON** - 10 COUPONS

CENTRAL LONDON

THE POLYTECHNIC
SCHOOL OF ENGINEERING
AND SCIENCE
SCIENCE DIVISION
HEADQUARTERS IN PHYSICAL
INSTRUMENTATION
67-449 10 30-230

The successful applicant will be highly qualified in the field of environmental science with experience of teaching research students. The successful candidate will be instructed to lead a research team in the area of environmental monitoring and assessment based on the application of remote sensing and geospatial information systems. The successful candidate will be responsible for supervising and coordinating the work of research students and staff in the field of environmental science and technology. The successful candidate will be responsible for the development and delivery of research and teaching in the field of environmental science and technology. The successful candidate will be responsible for the development and delivery of research and teaching in the field of environmental science and technology.

Applications are invited from persons who are available to lecture in English to supervising subjects at Postgraduate level. The person appointed will be responsible for the instruction technology relating to the following subjects: Surveying and Management, and will be expected to participate in other activities of the School particularly in the field of planned nutrition and control of disease.

SCHOOL OF MANAGEMENT STUDIES

CLINICAL NUTRITION (2-year course)
 £4,500 to £12,900

A suitably qualified person with a background in nutrition, medicine or industrial science is invited to

PLYMOUTH
THE POLY CLINIC
TECHNIQUE 1. STIMULI
TECHNIQUE 2. MOVEMENTS

SUNDERLAND

**THE POLYTECHNIC
FACULTY OF HUMANITIES
DEPARTMENT OF SOCIOLOGY
SCIENCE
RESEARCH ASSISTANT**

Applicants should be graduates in one of the social sciences, or have a degree intended to read for a degree, with special reference to the sociology of science.

The appointment is for one year, with the possibility of extension.

The salary scale for these appointments is £2,535 p.a. to £2,787 p.a.

**FACULTY OF ARTS
DESIGN**

DEPARTMENT OF APPLIED
STUDIES
LECTURER II (17-2444)R
This temporary position
completes and/or teaches Division
Instructional Design I or II
Foundation Course and I
Instructional Design I or II
professor of Learning Design
on course students is d
able. The work is seasonal
year from 1st September
1978
Salary scale: Lecturer (C)
\$3,200 plus \$214 to \$2,400
plus \$251 to \$2,015
Scale I and II supplements
\$492 per annum.

FACULTY OF HUMANITY
DEPARTMENT OF SOCIAL
SCIENCES
PROFESSOR OF APPLIED
STUDIES
Salary scale: \$4,460

24 (2) to £2,750 per annum
as £243 supplement.
Applicants should be 0
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the nature of his/her resu
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Further particulars and
application form may be
obtained from the Perso
Officer, Wandsworth
Museum, Chester Road, Surbiton,
Middlesex TW9 1SD, and should
be returned as soon as possi

Polytechnics continued

Ulster College Northern Ireland Polytechnic

Centre for Management Education

PRINCIPAL LECTURER—EDUCATIONAL MANAGEMENT

To play a leading role in the development of Educational Management courses including undergraduate and postgraduate courses. Candidates should have an appropriate postgraduate qualification and relevant experience.

TEMPORARY LECTURER II IN ACCOUNTING AND BUSINESS POLICY (One Year Appointment)

To work mainly in the fields of Accounting and Business Policy, relating these to the general management context. Candidates should hold appropriate academic qualifications, and preferably possess industrial and appropriate teaching experience.

Faculty of Social and Health Sciences

PRINCIPAL LECTURER—YOUTH AND COMMUNITY WORK

Applicants must be graduates, preferably in social science, with experience of teaching on youth and community work courses. A recognized qualification in youth and community work is also essential.

LECTURER II OR SENIOR LECTURER—RESIDENTIAL SOCIAL WORK

Applicants must hold a recognized social work qualification and have had appropriate experience in residential work. Experience in teaching on in-service courses or practice teaching would be an advantage.

Faculty of Technology

TEMPORARY LECTURER II—MECHANICAL ENGINEERING (One Year Appointment)

The person appointed must have a broad knowledge of Mechanical Engineering the primary duty of this post being the teaching of Mechanical Technology and Engineering Science. A Chartered Engineer would be preferred.

Principal Lecturer	£7,047-£7,818/£8,844
Senior Lecturer	£6,051-£7,065/£7,572
Lecturer II	£4,101-£5,558
Temporary Lecturer II	£4,101-£5,081

The Polytechnic is a direct grant institution with an independent Board of Governors. It opened in 1971 and now has a student population of some 7,100. It has extensive new purpose-built accommodation including 750 residential places on the 114-acre campus overlooking the sea at Jordanstown, a pleasant and quiet residential area. There is a scheme of assistance with removal. Further particulars and application forms, which must be returned by June 13, may be obtained by telephoning Whiteabbey (0231) 65131, ext. 2243 or by writing to: The Establishment Officer, Ulster College, The Northern Ireland Polytechnic, Shore Road, Newtownabbey, Co. Antrim BT37 0DB.

NEWCASTLE UPON TYNE POLYTECHNIC

Division of Teaching Studies

PRINCIPAL LECTURER IN SPORT AND RECREATIONAL STUDIES

Applications are invited for the above post as Course Leader in the Interdisciplinary degree BA SPORT AND RECREATION STUDIES. The holder of the post will be responsible for the development of the programme and for the supervision of the staff. Candidates should have good academic qualifications and experience in an appropriate area of sport. An interest in the field of Recreation, Physical Education and Leisure Studies would be an advantage. The successful applicant will be required to take up post on 1st January, 1978.

For further particulars, and an application form, returnable by Thursday 15th June 1978, please send a stamped addressed postcard to the Staffing Officer, Newcastle upon Tyne Polytechnic, Eldon Building, Eldon Place, Newcastle upon Tyne NE1 9ET.

Ulster College Northern Ireland Polytechnic

FACULTY OF BUSINESS ADMINISTRATION

Vacancies exist in the Schools of Accounting and Finance, Administrative and Professional Studies, and Hotel, Catering and Institutional Management.

School of Accounting & Finance:

Because of developments in postgraduate Diploma in Accounting and expansion of existing courses, additional staff are required in Financial and Management Accounting as follows:

(1) **Principal Lecturer in Financial or Management Accounting**
Applicants should have an Honours Degree and/or be qualified with ACCA/ACA/ACMA/IFPA. A postgraduate qualification would be an advantage.

(2) **Lecturer I in Financial Accounting**
Applicants should have an Honours Degree and/or be a ACCA/ACA/ACMA/IFPA/ACIS with an enthusiasm for teaching. A postgraduate qualification would be an advantage.

(3) **Visiting Lecturer in Accounting (Senior Lecturer or Lecturer II Grade)**
Applicants should have an Honours Degree and/or be a ACCA/ACA/ACMA/IFPA/ACIS with an enthusiasm for teaching. A postgraduate qualification would be an advantage.

School of Administrative & Professional Studies:

(4) **Visiting Fellow in Public Administration (Principal Lecturer Grade) One Year Appointment**

A Visiting Fellow is required for one year to make a significant contribution to the development of research activities within a School responsible for the teaching of Public Administration on a variety of Degree courses. Applicants should possess a research degree in a discipline appropriate to the study of Public Administration and be engaged in teaching and/or research in that area.

School of Hotel, Catering & Institutional Management:

(5) **Visiting Fellow in Hotel and Catering Administration (Principal Lecturer Grade) One Year Appointment**

Applicants are invited from people holding a higher Degree or good Honours Degree in an appropriate discipline. Relevant research, industrial or teaching experience would be an advantage. The person appointed will be expected to contribute to the teaching and development of a proposed Degree in Catering Administration.

(6) **Senior Lecturer or Lecturer II in Catering Administration**

Applicants should have a sound academic background and/or relevant professional qualifications. Postgraduate qualifications together with teaching and industrial experience would be an advantage.

(7) **Lecturer I or Lecturer II in Catering Studies**

A lecturer is required to teach theory and practice of Food Production Systems to Higher National Diploma and Degree level students.

Candidates should be academically qualified and preferably have relevant industrial and teaching experience.

Principal Lecturer	£7,047-£7,818/£8,844
Senior Lecturer	£6,051-£7,065/£7,572
Lecturer II	£4,101-£5,558
Lecturer I	£3,192-£5,334

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THE POLYTECHNIC HUDDERSFIELD

Advisory Service Division

SENIOR LECTURER—APPOINTMENTS AND CAREERS OFFICER Ref: ACA/226/128

Applications are invited from persons qualified to assume the responsibilities of this post which include careers counselling, the provision of up to date information on opportunities and liaison with internal staff and external organizations. In addition, to leading the Careers Section, the successful candidate will be involved in other aspects of the Division's work under the general direction of the Head.

Salary: £15,523-£25,447 (Bar)
Further details and application forms, which should be returned by 16 June, 1978, from the Establishment Officer, The Polytechnic, Queensgate, Huddersfield, HD1 3DE, (Telephone 0484 22288 Ext 2226).

SHEFFIELD CITY POLYTECHNIC

FACULTY OF BUSINESS AND MANAGEMENT STUDIES

Applications are invited for the post of

Senior Lecturer/Lecturer II in Production and Marketing Economics

Salary Scale: Senior Lecturer £5,571 to £6,447 plus 10% Award post. Lecturer II £4,716 to £5,592 plus 10% Award post. This post is in the Department of Production and Marketing Economics. It involves the application of financial and economic principles to production, the catering and leisure industries, and related activities. Research in these areas is encouraged.

DEPARTMENT OF ECONOMICS AND BUSINESS STUDIES

Lecturer II/Senior Lecturer in Marketing

Salary Scale: Lecturer II £4,716 to £5,592, Senior Lecturer £5,571 to £6,447 plus 10% Award post. This post is in the Department of Production and Marketing Economics. It involves the application of financial and economic principles to production, the catering and leisure industries, and related activities. Research in these areas is encouraged.

DEPARTMENT OF COMMUNICATION ARTS

Photographic Fellow in Residence

Sheffield City Polytechnic, in conjunction with the Arts Council of Great Britain and the Yorkshire Arts Association, offer a photographic fellow in residence for a period of 12 months, commencing in September 1978. The fellow will be based at the Polytechnic and will be responsible for the development of a photographic programme for the Polytechnic.

DEPARTMENT OF MANAGEMENT STUDIES

Research Assistant in Production Job Design

Salary Scale: £2,410 to £3,192 plus 10% Award post. This post is in the Department of Production and Marketing Economics. It involves the application of financial and economic principles to production, the catering and leisure industries, and related activities. Research in these areas is encouraged.

The Polytechnic of North London

ASSISTANT DIRECTOR

Applications are invited for this post, following the retirement of Dr N. Singer to the Directorship of Thames Polytechnic.

Candidates should have high academic qualifications, a proven record in academic planning and development, higher education, and in the distribution of resources and appropriate administrative experience, preferably at a university or polytechnic.

Salary: £13,527 (includes London Allowance).

Further information may be obtained from The Chief Governors, The Polytechnic of North London, Holloway, London N7 8DB.

Closing date for applications: 20 June, 1978.

LECTURER II/SENIOR LECTURER IN ELECTRONICS

(£4,101-£7,065 (Bar)-£7,572)

Candidates should preferably possess teaching and/or industrial experience. Research experience and a continuing interest in research work are essential requirements for the post. For further details and form of application please send a self-addressed foolscap envelope to the Chief Administrative Officer, Trent Polytechnic, Burton Street, Nottingham NG1 4BU. Closing date: 14 June 1978.

TRENT POLYTECHNIC NOTTINGHAM

LECTURER II/SENIOR LECTURER IN ELECTRONICS

(£4,101-£7,065 (Bar)-£7,572)

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Polytechnics continued

Leeds POLYTECHNIC

School of Mechanical and Production Engineering

TEACHING APPOINTMENTS

Vacancies exist for part-time teaching staff mainly to undertake laboratory supervision. Remuneration sufficient to provide suitably qualified persons with an acceptable income while using the opportunity to work for a higher degree.

Areas of research in the school include:—
Vibratory Conveying,
Correlation and Spectral Analysis,
Bulge Forming of Closed Ended Cylinders,
Applications of Fluidisation,
Terotechnology.

Interested persons are invited to contact Dr. R. E. Schofield, for informal discussions about the posts at School of Mechanical and Production Engineering, Leeds Polytechnic, Calverley Street, Leeds LS1 3HE. Tel: 0532 462743.

LEICESTER

THE POLYTECHNIC

RESEARCH ASSISTANTSHIP

IN POLYMER TECHNOLOGY

Applications invited for a Research Assistantship in Polymer Technology. The successful candidate will be responsible for the development of a research programme in the field of polymer technology. The post is for a period of 12 months, commencing in September 1978. The salary scale is £2,410 to £3,192 plus 10% Award post.

NEWCASTLE UPON TYNE

THE POLYTECHNIC

DEPARTMENT OF ADMINISTRATIVE AND MANAGEMENT STUDIES

SENIOR LECTURER II IN CONSTRUCTION MANAGEMENT

This is a new appointment arising from continued expansion in this field. Applicants should possess a higher degree and be experienced in construction management. The salary scale is £4,101 to £5,558 plus 10% Award post.

DEPARTMENT OF ECONOMICS

LECTURER II—FINANCE

Applications are invited from suitably qualified and experienced graduates for the post of Lecturer II in Finance. The salary scale is £4,101 to £5,558 plus 10% Award post.

SCHOOL OF MECHANICAL ENGINEERING

LECTURER II IN PRODUCTION TECHNOLOGY

Applications are invited for the post of Lecturer II in Production Technology. The successful candidate will be responsible for the development of a research programme in the field of production technology. The post is for a period of 12 months, commencing in September 1978. The salary scale is £4,101 to £5,558 plus 10% Award post.

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Colleges and Departments of Art

Dartington College of Arts

Principal Peter Cox

Head of Art and Design Department

(MOD Grade II) £6,738-£7,514

Applications are invited for the post of Director of the Art and Design Department, which will become vacant at the end of the present academic year.

The College, which is sponsored by the Dartington Hall Trust and assisted by the Devon County Council, has three departments for full-time students—Music, Theatre and Art and Design. It has two other departments, the Devon Centre for Further Education and the Summer School of Music, and serves as an arts centre for South Devon through the Dartington Arts Society.

The Department of Art and Design offers a unique two-year course, Art and Design in Social Contexts, which commenced in September 1977, and leads to the Diploma of Higher Education (CMAA). The Head will be expected to develop this course and to prepare proposals for a three-year degree course, building on resources already growing within the College and the wider Dartington community. The College already offers honours degrees in Music and Theatre. Further details and an application form may be obtained from the Senior Administrative Officer, (T1), Dartington College of Arts, Totes, Devon TQ9 6EL.

DUNCAN OF JORDANSTONE COLLEGE OF ART

SCHOOL OF DESIGN

Applications are invited for the post of Senior Lecturer responsible for the course in Graphic Design within the Visual Communications Department.

The Department is responsible for the following CMAA Honours and Unclassified Degree courses:—
Visual Communications: (i) Graphic Design; (ii) Illustration and Printmaking.

The person appointed will be expected to have appropriate professional and administrative abilities, and an interest in all aspects of Graphic Design and the Education and Training of Graphic Designers.

The annual salary for the post will be within the Scale £7,155 to £9,042.

Application forms and further information may be obtained from the College Secretary, Duncan of Jordanstone College of Art, Perth Road, Dundee DD1 4HT (telephone number 0382 23261, extension 6), to whom applications must be submitted not later than June 16, 1978.

Colleges of Further Education

Camborne School of Mines

LECTURER II

£3,744-£5,985 p.a.

This is a new post to support the teaching of subjects in the Mining Department. Applicants should be suitably qualified and since the appointee would be encouraged to participate in the School's research activities, a higher degree would be desirable, and preference would also be given to a candidate with recent qualifications and experience.

The successful applicant must be prepared to take up his duties on September 1, 1978, and will be appointed in the salary scale Lecturer II (there is a pay award pending) the starting point depending upon qualifications and experience.

The closing date for applications is July 10, and application forms, together with further information, may be obtained from the Registrar, Camborne School of Mines, Pool, Redruth, Cornwall.

Colleges of Higher Education

THE NATIONAL INSTITUTE FOR HIGHER EDUCATION, LIMERICK, IRELAND

ELECTRONIC ENGINEERING

The Electronic Engineering Department is expanding within an extensive range of recently constructed facilities on the new campus. Those appointed will be expected to contribute to the further development of the existing honours degree level programme in Electronic Engineering and to National Diploma programmes in Industrial Electronics, Computer Engineering and Instrumentation and Control, as well as the teaching of the development of research qualifications and experience which is immediately relevant to current electronics practice in the electronics industry.

HEAD OF DEPARTMENT

Responsible at the outset for the operation and further development of various teaching and research programmes within the Department. Current departmental establishment: 17 faculty members,

Administration continued

UNIVERSITY OF DUNDEE

Personal Assistant to the Principal

Professor Adam Neville, DSc, FRS, assumes office as Principal and Vice-Chancellor of the University in October, 1978, and applications for the new post of Personal Assistant in his Office are invited.

Applicants, who may be of either sex, should hold, or should expect to obtain in 1978, a University degree and should have a knowledge of Mathematics beyond Scottish Higher Grade or GCE 'A' level. The ability to abstract written information and to produce clear, logical summaries will be important. Experience in conducting library-based research would be an added advantage. Although the Personal Assistant will have to liaise with various sections of the University Administration, he or she will normally work directly to the Principal and the post will not offer a broadly-based introduction to a career in University Administration.

The appointment will be made on the Administrative Grade III scale (£2,180 to £3,282), with initial placement according to age, qualifications and experience. Superannuation under the Universities Superannuation Scheme.

Applications (three copies), including the names and addresses of two referees, should be sent out later than June 14, 1978, to The Secretary, University of Dundee, Dundee DD1 4JN. Please quote Reference EST/34/78C. It is intended to hold the interviews of short-listed candidates on 5 July, 1978, in Dundee.

Announcements

WOMEN AND UNDER-ACHIEVEMENT

A one day conference, sponsored by the EOC/SSRF Joint Panel on Equal Opportunities Research, will be held at Brunford College on Friday, June 23.

The number of places is limited. Research workers with interests in this field are invited to apply to attend.

Letters of application, which should include brief details of relevant research work, must be sent to the Secretary, Brunford College, Great Horton Road, Bradford BD7 1AV, to arrive no later than Friday, June 9.

Colleges of Education

NEWMAN COLLEGE

(RC COLLEGE OF EDUCATION)

BARTLEY GREEN, BIRMINGHAM B32 3HT

Applications are invited for the post of

LECTURER

in Curriculum and Teaching Studies

College awards are valued by the University of Birmingham and the successful candidate will take part in a variety of research and teaching work up to B.Ed. (initial and in-service). The following requirements are essential:

- Teaching experience in a junior school: a good academic qualification in Psychology and/or Curriculum; and an interest in professional aspects of teaching—particularly Communication Skills, teaching of reading at all levels, and teachers' and educationally disadvantaged groups. Experience at secondary level would be an additional recommendation.

Applications (no forms) with a detailed Curriculum Vitae and the names and addresses of three referees, should be sent to the Principal before 12 June. The post will be available from 1 September 1978, but may be held to a later date for a suitable applicant, and is offered at Lecturer II/Senior Lecturer level depending on the successful candidate's previous experience.

Research Posts

SHEFFIELD THE UNIVERSITY RESEARCH POST

Applications are invited from men and women for two research posts in the Department of Psychology. The posts are in the area of cognitive psychology and are concerned with the study of memory and learning. The posts are at the level of Lecturer II/Senior Lecturer and are full-time positions. The successful candidate will be expected to carry out research in the field of memory and learning and to contribute to the teaching of psychology. Applications should be sent to the Department of Psychology, Sheffield Hallam University, Sheffield S18 1LP. Closing date: 15 July 1978.

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Courses

CITY OF LONDON POLYTECHNIC

Two-year part-time MA degree in Politics & Government

Course starts in September 1978

The Unit of Political Studies continues to offer also its full-time BA degree in Politics and Government. Full details of both degrees from:

The Senior Assistant Academic Registrar City of London Polytechnic, Old Castle Street E1 Telephone 01-283 1030 E 4 576

SHEFFIELD THE UNIVERSITY CONTINUING EDUCATION

Applications are invited for the new course which commences in October, 1978. The course is a two-year part-time MA degree in Politics and Government. It is designed for those who wish to gain a qualification in Politics and Government while continuing to work. The course is taught in the evening and on weekends. The successful candidate will be awarded a MA degree in Politics and Government. Applications should be sent to the Continuing Education Unit, Sheffield Hallam University, Sheffield S18 1LP. Closing date: 15 July 1978.

For Sale

JOURNAL OF GLACIOLOGY

Volumes 1 to 14 complete (11 issues). For sale. The Journal, Glaciology, 12, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 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